INTERIM MEASURE COMPLETION REPORT

2010 - 2012 SOIL AND STORMWATER MANAGEMENT PLAN, DEMOLITION AND REDEVELOPMENT ACTIVITIES, 2-40s, 2-31 AND 2-60s/2-66 AREAS

Boeing Plant 2
Seattle/Tukwila, Washington

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LIST OF ABBREVIATIONS/ACRONYMS

Abbreviation/Acronym	Definition
AOC	Area of Concern
bgs	below ground surface
BNA	base/neutral/acid
Boeing	The Boeing Company
BTEX	benzene, toluene, ethylbenzene and xylenes
CDF	controlled density fill
CMS	Corrective Measures Study
COC	constituent of concern
cPAH	carcinogenic polycyclic aromatic hydrocarbons
DDC	Density-driven convection
DSOA	Duwamish Sediment Other Area
EPA	US Environmental Protection Agency
ERD	Enhanced Reductive Dechlorination
FMCL	Final Media Cleanup Level
IM	interim measure
LDRs	Land Disposal Restrictions
MTCA	Model Toxics Control Act
NPDES	National Pollutant Discharge Elimination System
OA	Other Area
Order	Administrative Order on Consent
PAH	polycyclic aromatic hydrocarbons
PCB	polychlorinated biphenyls
PID	photoionization detector
PPE	personal protective equipment
PPM	parts per million
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RMA	risk management area

Abbreviation/Acronym	Definition
RSL	regional screening level
SAP	Sampling and Analysis Plan
SMS	Sediment Management Standards
SQS	Sediment Quality Standards
SOP	standard operating procedure
SVOC	semivolatile organic compound
SWMU	Solid Waste Management Unit
TCE	Trichloroethene
TMCL	Target Media Cleanup Level
TOC	total organic carbon
TPH	total petroleum hydrocarbons
TSCA	Toxic Substances Control Act
UECA	Uniform Environmental Covenants Act
UST	underground storage tank
VOC	volatile organic compound
WDOE	Washington State Department of Ecology

1.0 INTRODUCTION

This Interim Measure (IM) Completion Report presents work completed by The Boeing Company (Boeing) during the demolition and redevelopment of the 2-40s, 2-60s/2-66, and 2-31 Areas of the Plant 2 facility in Seattle/Tukwila, Washington (Figures 1 and 2). This report has been prepared, and the planned IM performed, in accordance with Administrative Order on Consent (Order) No. 1092-01-22-3008(h) between Boeing and the US Department of Environmental and Protection Agency (EPA) Region X. The Order is issued pursuant to Section 3008(h) of the Solid Waste Disposal Act as amended, also referred to as the Resource Conservation and Recovery Act (RCRA).

The work described herein was generally completed in two phases, including the demolition phase between November 2010 and December 2011, and the redevelopment phase between December 2011 and November 2012. The demolition phase included demolishing and removing Buildings 2-40, 2-41, 2-44, 2-49, the western portion of Building 2-31, the floor slabs associated with those buildings, and excavating impacted soils. The redevelopment phase included demolishing and removing concrete slabs in the 2-60s & 2-66 Areas, removing old utilities and underground structures, installing new utilities, installing a new stormwater system, excavating impacted soils, backfilling excavations, and placing asphalt pavement throughout the demolition/redevelopment area. The concrete slabs in the overhang area of the 2-40s buildings and in the Southwest Bank (Figure 2) were left intact for subsequent demolition as part of the Duwamish Sediment Other Area (DSOA) and Southwest Bank Corrective Measure work.

The demolition and redevelopment work included the following major activities:

- The collection of 738 concrete core samples, and after compositing, the laboratory analyses of 252 samples to document the removal of concrete managed as TSCA waste.
- The removal of approximately 60,000 cubic yards of concrete slabs, foundations, and underground structures.
- The removal and disposal of approximately 1,200 cubic yards of concrete managed as Toxic Substance Control Act (TSCA) waste.
- The removal and disposal of approximately 60,000 cubic yards of impacted soil.
- The collection of 391 soil samples to confirm that impacted soil had been removed or to supplement existing data where excavations occurred at and resulted in the removal of soil where previous RCRA samples had been collected.
- The processing and placement of approximately 113,500 tons of recycled crushed concrete backfill.
- The collection of 190 crushed concrete samples, and after compositing, the laboratory analyses of 174 samples to confirm that the crushed concrete met the requirements for use as backfill.
- The import and placement of approximately 125,000 tons of clean soil backfill.

- The installation of approximately 14,000 linear feet of new stormwater lines, along with 5 lined bioswales and 3 modern stormwater treatment vaults.
- The placement of approximately 30 acres of asphalt pavement.

The soil, stormwater, and concrete management associated with the work were performed in accordance with, and without deviation from, the following EPA-approved work plan, modification, and addenda:

- *Interim Measure Work Plan, 2010 Soil and Stormwater Management, Demolition of Buildings 2-44 and 2-49* (Golder 2010a), submitted to EPA in July 2010, and approved by EPA in September 2010. Modifications or addenda to the work plan have included the following:
    - *Modification to Interim Measure Work Plan, 2010/2011 Soil and Stormwater Management Plan, Demolition of Buildings 2-41, 2-44 and 2-49* (Golder 2010c), submitted to EPA in November 2010 to address schedule, sequence and Target Media Cleanup Level (TMCL) changes. The EPA approved the modification to the plan in December 2010.
    - *Addendum to the Interim Measure Work Plan, 2010/2011 Soil and Stormwater Management Plan, Demolition of Buildings 2-41, 2-44, and 2-49* (Golder 2010d), submitted to EPA in December 2010 to address concrete management during demolition. The EPA approved the addendum in December 2010.
    - *Addendum No. 2, Interim Measure Work Plan, 2010/2011 Soil and Stormwater Management Plan, Demolition of Buildings 2-40 & 2-31 and 2-60s/2-66 Area Slabs* (Golder 2011b), submitted to EPA in April 2011 to address activities in the footprint of the remainder of the buildings and slabs scheduled for demolition during 2011. The EPA approved the addendum in June 2011.
    - *Addendum No. 3, Interim Measure Work Plan, 2010/2011 Soil and Stormwater Management Plan, Demolition and Redevelopment Activities, 2-40s & 2-31 Buildings and 2-60s/2-66 Area Slabs* (Golder 2011c), originally submitted to EPA in August 2011 to address excavations and soil management during the removal of old utilities, the installation of new utilities, and the installation of a new stormwater system; demolition-related excavations to remove soil that may have been affecting groundwater quality; and the removal of impacted soils following demolition in conjunction with site redevelopment activities. The EPA conditionally approved the addendum in September 2011. The addendum was modified per EPA's conditional approval and resubmitted in October 2011.

Under the RCRA Corrective Measures Study (CMS) process, Plant 2 uplands has been divided into four risk management areas (RMAs): Habitat, Paved Shoreline, Unpaved Shoreline and Industrial based on land use, distance from the waterway and being paved or unpaved. The Unpaved Shoreline was previously designated as Stormwater Area in the work plan (and memorandum and addenda) associated with this completion report. For consistency between the work plans and this completion report the Unpaved Shoreline Area will be referenced as the Stormwater Area in this report.

The Habitat Area is located between the uplands and the Duwamish Waterway sediments and is geographically an extension of the DSOA. The Habitat Area is between the DSOA and the Stormwater and Industrial Areas, and will be vegetated. The Paved Shoreline Area consists of an asphalt- or

concrete-paved area at 16th Avenue South, on the north end of the project area, in the vicinity of the 16th Avenue South (South Park) Bridge. The Stormwater Area is located between the Habitat and Industrial Areas. The lined stormwater bio-swales and treatment vaults associated with the new stormwater system were installed in the Stormwater Area. The Industrial Area is located to the east of the other three areas and was paved with asphalt and fenced during the redevelopment phase of the project.

The demolition and redevelopment area primarily included three RMAs: Paved Shoreline, Stormwater, and Industrial, as shown in Figure 3. However, the redevelopment excavation and backfill activities extended into the Habitat Area in the vicinity of the South West Bank.

1.1 BACKGROUND

The Plant 2 facility is located on 107 acres between the Duwamish Waterway and East Marginal Way South in Seattle and Tukwila, Washington. Figure 1 presents a vicinity map, and Figure 2 identifies the demolition and redevelopment area that is addressed under this report. With the exception of small landscaped areas, the pre-demolition ground surface at Plant 2 was either paved or covered by buildings. Stormwater falling upon pavement or buildings was discharged to the Duwamish Waterway under a National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit for Stormwater Discharges Associated with Industrial Activities, in compliance with the State of Washington Water Pollution Control Law (Chapter 90.48 RCW) and the Federal Water Pollution Control Act (The Clean Water Act) (Title 33 United States Code, Section 1251 et seq.).

1.2 DEMOLITION AND REDEVELOPMENT DESCRIPTION

Demolition and redevelopment at Plant 2 during 2010 to 2012 comprised a total area of approximately 35 acres and included Buildings 2-40, 2-41, 2-44, 2-49, the 2-60s/2-66 slabs, and part of Building 2-31, as shown in Figure 2. The demolition of buildings and slabs included the removal of the building superstructures, floor slabs, subgrade sumps/pit and vaults and infrastructure. The building floor slabs and subgrade infrastructure were generally removed to within approximately 100 feet of the Duwamish Waterway. The slabs within 100 feet of the Duwamish Waterway were left intact for subsequent demolition as part of the DSOA and Southwest Bank Corrective Measure work (Figure 2).

During demolition and redevelopment, Boeing removed physical structures (e.g. concrete sumps and vaults), several of which were located within RCRA units, and associated impacted soils as described in the IM Work Plan, the modification to the IM Work Plan, Addenda No. 2 and No. 3 of the IM Work Plan (Golder 2010a, 2010c, 2011b, and 2011c respectively), and as documented herein. Boeing removed impacted soils in or adjacent to the demolition area when old utilities and stormwater components were demolished, removed, and replaced with new utilities and stormwater components, and impacted soil was

removed elsewhere to protect current and future industrial workers and to prevent the spread or migration of impacted soils to adjacent areas.

Methods of managing the soil, stormwater, and concrete during the demolition, replacement, and excavation activities were consistent with those methods documented in the approved work plan, modification, and addenda.

2.0 OBJECTIVE OF INTERIM MEASURE

The objective of this IM Work Plan was to:

- Manage soil and stormwater during demolition and redevelopment activities in accordance with the approved work plan (Golder 2010a), modification (Golder 2010c), and addenda (Golder 2010d, 2011b, 2011c).
- Provide historical soil and groundwater quality data to support construction bid documents and development of contractor health and safety documents and protocol.
- Identify locations of excavations to address known areas of impacted soil based on anticipated land use for the protection of human health and safety and the environment.
- Describe environmental support activities to be conducted during demolition, excavation, and redevelopment.
- Update (with new data) the Plant 2 RCRA chemical database information associated with soil removed during demolition.

As an IM, this work was not intended to be a final remedy. Work performed under this IM, however, was done in a manner supportive of that which might be required for a final remedy.

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3.0 SOIL EXCAVATIONS

3.1 SOIL EVALUATION CRITERIA

As presented in the IM Work Plan (Golder 2010a), the modification to the IM Work Plan (Golder 2010c), and the second addendum to the IM Work Plan (Golder 2011b), Boeing removed physical structures (e.g. concrete sumps and vaults) within RCRA units and, to the extent required, associated impacted soils. As described herein, Boeing conducted additional excavations in or adjacent to the demolition area to remove and replace utilities and stormwater system components, and to remove known areas of impacted soil in coordination with the demolition and site redevelopment activities. The excavations were conducted in a manner to reduce the potential that future remedial actions in these areas would be required under the RCRA process.

The soil evaluation criteria evolved during the course of the demolition/redevelopment project as Boeing and EPA worked on finalizing the Plant 2 draft target media cleanup levels (TMCLs) and developing draft final media cleanup levels (FMCLs). Draft TMCLs became final with EPA acceptance of the May 26, 2011 Target Media Cleanup Levels Technical Memorandum. FMCLs will be finalized with completion of the North and South Plant 2 CMS reports and the resulting Statement of Basis.

Development of TMCLs and FMCLs had not been completed when the IM work plans were finalized, so soils data from each area were initially evaluated by comparison of existing data to evaluation criteria developed from one or more of the following EPA Regional Screening Levels (RSLs) for industrial land use scenarios, Model Toxics Control Act (MTCA) Method A Cleanup levels for total petroleum hydrocarbons (TPH), draft TMCLs, interim FMCLs, and Washington State Sediment Management Standards (Chapter 173-204 WAC) Sediment Quality Standards (SMS SQS).

Excavation activities for the removal of impacted soils during the demolition phase of the project occurred at four RCRA units: OA 14 Building 2-49 Machine Pits, OA 21 Building 2-44 Machine Shop Area, SWMU 2-41.30 Manhole Vault and SWMU 2-41.36 Underflow Flume (Section 3.4). Soil excavations conducted during the demolition phase of the project were conducted under the 2010 IM Work Plan (Golder 2010a), initially using the evaluation criteria presented in Table 2a of that document, henceforth referred to as the "2010 evaluation criteria". Excavation activities for the removal of other impacted soils were conducted during the project redevelopment phase using the evaluation criteria presented in Table 2 of Addendum No. 3 to the Work Plan (Golder 2011c). As a result of additional impacted soil discovered during the initial excavations at OA 14, OA 21, and SWMU 2-41.30, the final excavation activities at those locations were completed during the redevelopment phase, and the soil removal activities were consistent with the Addendum No. 3 evaluation criteria utilized during that phase of the project.

Therefore, with only two exceptions noted in subsequent discussions of soil data in this document, references to "evaluation criteria" mean that Industrial Area evaluation criteria are based on EPA RSLs, Stormwater Area evaluation criteria are based on EPA TMCLs, and Habitat Area evaluation criteria are based on SMS SQS as identified in Table 2 of Addendum No. 3 to the Work Plan (Golder 2011c). The two exceptions to this are: 1) evaluation criteria associated with initial soil excavation activities conducted at SWMU 2-41.36 are based on the 2010 IM Work Plan (Golder 2010a) because the initial excavation was performed before new criteria were issued in Golder 2011c, and 2) Boeing conservatively implemented 270 µg/kg as a cleanup implementation level for trichloroethylene (TCE) in the Industrial Area. Therefore this concentration is reflected in the following discussion related to evaluation criteria in the Industrial area for TCE instead of the EPA RSL.

All discussions of groundwater quality reference the 2011 TMCLs for groundwater.

Future remedial actions at the site will be evaluated and implemented using the TMCL/FMCL implementation framework as that framework is developed and finalized by EPA as part of the CMS process. FMCLs will be established based on site specific data and potential exposure pathways associated with the recommended remedial action(s). Based on the FMCLs that are eventually selected, individual remedial actions completed during this project may require further remedial action and/or supporting elements such as institutional controls, (e.g., Uniform Environmental Covenants Act (UECA) covenants), a monitoring regime, or migration studies. As such, FMCLs and remedy elements will be addressed in the CMS Report for South Plant 2.

RMAs, boundaries (Figure 3), and relevance to evaluation criteria are summarized below from west (Duwamish Waterway) to east (East Marginal Way South).

- Habitat Area extends from the toe of the DSOA bank eastward to the Stormwater Area, and marks the western boundary of the upland RCRA vadose soils. Demolition and redevelopment activities conducted in the Habitat Area included the removal of above-slab building structures, the removal of a firewater vault and associated pipes, and the excavation of soil on the west side of the stormwater bio-swale in the 2-66 Area. The Habitat RMA is comprised of the former Riparian and Bank RMAs described in Golder 2010a, 2010c, 2011b, 2011c. Evaluation of soil in the former Bank Area was initially based on comparison to SMS SQS, and later based on TMCLs/draft FMCLs for the Habitat Area. Evaluation of soil within the Habitat Area was initially based on comparison to the lower of TMCLs or SMS SQS, and later based on the TMCLs/draft FMCLs for the Habitat Area. Additional remedial actions for the Habitat Area will be conducted in conjunction with the objectives for the DSOA, Southwest Bank and Habitat project.
- Paved Shoreline Area is located at 16th Avenue South on the north end of the Habitat and Stormwater Areas. Only a small portion of an excavation in the Stormwater Area extended into the Paved Shoreline Area at 16th Avenue South as part of this project, so no work other than that excavation was conducted in the Paved Shoreline Area.

- Stormwater Area is located between the Habitat Area and the Industrial Area. The Stormwater Area is enclosed by fencing and includes an access road and components of the new stormwater system including stormwater lines, treatment vaults, and lined bioswales. The area will include shoreline monitoring wells in the future after the DSOA and Habitat work is completed. Evaluation of Stormwater Area soil was initially based on comparison to TMCLs, and later based on the TMCLs/draft FMCLs for the Stormwater Area (Unpaved Shoreline RMA).
- Industrial Area is located between the Stormwater Area and East Marginal Way South, and includes the 2-66 Area sheetpile containment structure. Evaluation of Industrial Area soil was based on comparison to industrial land use criteria, initially EPA RSLs for ingestion, dermal, and inhalation scenarios, and later based on TMCLs/draft FMCLs for the Industrial Area. Asphalt pavement was placed over soil in this area to provide a protective cover sloped to direct rainfall to the new stormwater system that was installed throughout the Industrial and Stormwater Areas.

Exceedance of the individual evaluation criteria for specific COCs (Table 2) did not necessarily equate to the need for action being taken during demolition activities. However soils in the Industrial, Stormwater, Paved Shoreline and Habitat Areas exceeding industrial criteria were excavated as needed to protect current and future industrial workers and to prevent the spread or migration of impacted soils to adjacent areas. The remainder of the soil in the Habitat Area will be addressed as part of DSOA, Southwest Bank and Habitat project work.

Soil exceeding applicable criteria was excavated and properly managed as slab demolition, utility removals, or utility replacements were conducted. Approximately two-thirds of the soil in the Stormwater Area was also excavated to the bottom of the vadose zone at a depth 11 feet below ground surface (bgs), and replaced with clean fill material prior to the installation of the new stormwater system components in that area. The mass excavation of soil in the Stormwater Area was intended to comprehensively reduce the potential for disturbing or undermining the new stormwater system should future remedial excavations ever be required in the vicinity as part of the RCRA process. As an IM, this work was not assumed to be final, but was performed in a manner supportive of a compliance-based final remedy.

Additionally, a few areas in or adjacent to the demolition footprint were identified where 11-foot deep soil excavations would benefit the future quality of the groundwater. Accordingly, the opportunity to conduct these excavations was coordinated with the demolition and site redevelopment activities. Three excavations were completed to benefit to groundwater quality as described below in Sections 3.5.11, 3.5.12, and 3.5.13.

3.2 REVIEW OF HISTORICAL SOIL AND GROUNDWATER DATA

Historical soil and groundwater data were presented in the IM Work Plan (Golder 2010a), modification (Golder 2010c), and addenda (Golder 2010d, 2011b, 2011c) to support development of construction worker health and safety documents and protocols, and were reviewed to develop the strategy

implemented under this IM Work Plan to meet the objectives stated in Section 2.0. Soil and groundwater data reviewed for this IM Work Plan were provided to the demolition and redevelopment contractors for worker health and safety purposes.

Vadose soil (0 to 11 feet bgs) data were reviewed with respect to the applicable area criteria discussed in Section 3.1. Data for soil deeper than 11 feet bgs were also reviewed for informational purposes. The criteria that apply to the respective areas are shown in Figure 3 and listed in Table 1. Table 2 presents the more specific evaluation criteria for each area and each COC, and Table 6 in Appendix A provides all soil analytical data for historical and recent IM sampling within the demolition/redevelopment footprint.

The data review included all historical soils data in the demolition footprint. The review resulted in the identification of excavations that were conducted during demolition and land redevelopment activities to remove soil with known concentrations of constituents that exceeded applicable evaluation criteria. The demolition/redevelopment area excavations identified in the IM Work Plan and associated modification and addenda (Golder 2010a, 2010c, 2011b, 2011c), and those excavations completed as a result of impacted soil discovered during the project, are summarized below in Sections 3.4 and 3.5.

Potentially impacted groundwater in the excavations was addressed for worker health and safety purposes. Groundwater quality in the upper 20 feet of the aquifer (in the same areas described above) was evaluated with respect to EPA groundwater TMCLs, and exceedances of those levels were presented in Table 4 of Golder 2011c. Table 8 (Golder 2011c, Appendix A) provided data for all historical groundwater samples with detections of COCs, regardless of applicable criteria, and Table 10 (Golder 2011c, Appendix A) presented all historical groundwater analytical data (including non-detects) within the demolition footprint.

3.3 PREVIOUS SITE INVESTIGATIONS

RCRA and non-RCRA soil and groundwater investigations and actions have been conducted historically within the demolition and redevelopment area footprint. The IM Work Plan presented summaries of the following major soil/groundwater investigations that produced data evaluated in support of the demolition and redevelopment activities performed in this IM:

- RCRA Facility Investigation (RFI [Weston 1998]), most recently summarized in Section 3.3.1 of Golder 2011c
- Plant 2 Parcel Area Phase II Investigations (Golder 2003b), most recently summarized in Section 3.3.2 of Golder 2011c.
- CMS Data Gap Investigations, most recently summarized in Section 3.3.3 of Golder 2011c

3.4 SOIL EXCAVATIONS COMPLETED DURING DEMOLITION PHASE

Numerous soil excavations were planned and completed during the demolition phase of the project in and/or around the footprints of RCRA units where impacted soil was known to exist. The RCRA units, soils and groundwater data associated with the units, and demolition and proposed soil removal actions were described in the IM Work Plan (Golder 2010a), the Modification to the IM Work Plan (Golder 2010c), Addendum No. 2 to the IM Work Plan (Golder 2011b), and Addendum No. 3 to the IM Work Plan (Golder 2011c). The discussions regarding planned excavations were last updated in Sections 3.4.1 and 3.4.2 of Golder 2011c to reflect the area use criteria and draft FMCLs that were being used as of June 2011. The excavations that were completed are shown in Figures 4 and 5 of this IM Completion Report, and are discussed below. Observation, sampling and analytical methods are discussed in Section 4. The Sampling and Analysis Plan (SAP) was submitted as Attachment A in the *Modification to Interim Measure Work Plan* (Golder 2010c).

3.4.1 OA 14 Building 2-49 Machine Pits

Other Area (OA) 14 straddles the Industrial and Stormwater Areas and consisted of a former stretch press pit and the surrounding area where polychlorinated biphenyls (PCBs) were historically discovered in the soil in the central portion of Building 2-49 (Figures 4 and 5). The pit measured approximately 90 feet long by 30 feet wide by 4.5 to 21 feet deep, and formerly held a large hydraulic press that was used to manufacture aircraft parts. Hydraulic fluids, coolants, and oil were associated with this unit. Potential constituents of concern (COCs) included volatile organic compounds (VOCs), base/neutral/acids (BNAs), PCBs, and inorganics from the hydraulic oils and coolants used at the unit. The stretch press pit was covered in 1991 and is no longer in service (Weston 2000a).

Historical Sampling

Eight historical borings were located in the footprint of OA 14 (Figure 4, Golder 2011c). One boring, DP-4901, was located in the Industrial Area and the other seven borings, SB-04902, SB-04906, SB-04907, SB-04908, SB-04909, SB-04911 and SB-04912 were located in the Stormwater Area. Soils analytical data from the borings were evaluated versus the applicable area criteria. In the Industrial Area, soil samples were collected in DP-4901 at depths of 11.5 and 15 feet bgs, and analyzed for PCBs, TPH, and benzene, toluene, ethylbenzene and xylenes (BTEX). The analytical results for these soil samples indicated that no COCs were detected.

A groundwater sample was also collected in DP-4901 at a depth of 10 to 15 feet bgs. The sample was analyzed for PCBs, BTEX, and TPH. No COCs were detected in the groundwater sample.

Of the seven borings located in the stormwater area, soil samples were collected in SB-04902 at depths of 2.5, 7.5, 10, and 12.5 feet bgs; in SB-04906 and SB-04908 at depths of 1.5, 7, and 12.5 feet bgs; in SB-04907 at depths of 1.5, 7.5, and 12 feet bgs; in SB-04909 at depths of 2, 8, and 12 feet bgs; in SB-04911 at depths of 1.5, 3.5, and 11 feet bgs; and in SB-04912 at depths of 2, 6.5 and 11.5 feet bgs. Groundwater samples were not collected in any of these borings. The soil samples from boring SB-04902 were variously analyzed for VOCs, BNAs, PCBs, TPH, and inorganics; and the soil samples from the other six borings were analyzed for PCBs. The analytical results for the soil samples from the seven borings indicated that PCBs were detected in four of the borings in concentrations greater than the Stormwater Area 2011 evaluation criteria (33 µg/kg). PCBs were detected in SB-04902 at a depth of 2 feet bgs (125 µg/kg), in SB-04907 at a depth of 7.5 feet bgs (45 µg/kg), in SB-04908 at a depth of 1.5 feet bgs (420 µg/kg), and in SB-04909 at depths of 2 feet bgs (59 µg/kg), 8 feet bgs (90 µg/kg), and 12 feet bgs (36 µg/kg). Analytical results for the soil exceedances were provided in Table 3 of Golder 2011c, and analytical results for all historical and recent soil samples are provided in Table 6 of Appendix A in this report.

Excavation and Monitoring

During the demolition and removal of floor slabs, utilities, and the stretch press pit in OA 14, additional soil excavation was conducted near the pit to remove some of the near surface soil with elevated concentrations of PCBs to reduce the potential of construction equipment tracking the impacted soil. The additional soil excavation was centered at boring SB-04908, measured approximately 6 feet square, had a depth of approximately 4 feet bgs (Figure 4), and a volume of approximately 5 cubic yards. The excavated soil was properly managed for characterization and disposal. Other COC concentration exceedances of applicable criteria were addressed during the excavation of the south third of the Stormwater Area as described in Section 3.5.1.

During the demolition and removal of floor slabs, foundations, and utilities in the area of the stretch press pit, the removal was monitored to confirm that the concrete was managed for appropriate handling, and the exposed soil was visually observed for signs of staining. No soil staining was observed and no groundwater was encountered.

Soil Sampling

No supplemental or confirmation soil sampling was conducted at the location of the shallow excavation at OA 14. The Stormwater Area soil in that vicinity was subsequently removed to a depth of 11 feet bgs, the approximate depth of the groundwater table, as discussed in Section 3.5.1.

3.4.2 OA 21 Building 2-44 Machine Shop Area

OA 21 is located in the Industrial Area and consisted of a machine shop area and the surrounding soil in the north-central portion of Building 2-44 (Figures 4 and 5). Staining and odor were discovered in the soil when a historical excavation was conducted to support the installation of new machining equipment. Subsurface soil samples were subsequently collected, and PCBs and oil-range petroleum hydrocarbons were detected in the soil at four locations in concentrations reported in the RCRA Facility Investigation (RFI) as requiring further consideration.

Approximately 120 cubic yards of impacted soil were historically removed in the eastern portion of OA 21 (the area where PCB and TPH concentrations were the highest) and disposed of in accordance with applicable regulations. Subsequent soil sampling during the RFI was focused near the eastern end of OA 21 to characterize the soil that remained after the historical excavation was completed. It was concluded during the RFI that the impacted soil was limited to an area extending 10 feet east of the machine pit to a depth of approximately 10 feet bgs (Weston 2000a).

Historical Sampling

Nine historical borings were located within a 25-foot radius of OA 21 (Figure 4, Golder 2011c). Soil samples were collected in seven of the borings and groundwater samples were collected in three of the borings.

Three soil samples were collected in boring 2-40-DP-013 at depths of 1, 5, and 10 feet bgs, and analyzed for VOCs, SVOCs, PCBs, inorganics, and TPH; three soil samples were collected in each of borings SB-04421, SB-04422, SB-04423 and SB-04424 at approximate depths of 1, 5, and 10 feet bgs, and analyzed for PCBs and TPH; and one soil sample was collected in each of borings SB-04425 and SB-04426 at depths of 7.5 and 6 feet bgs respectively, and analyzed for PCBs. The analytical results for the soil samples from the seven borings indicated that PCBs were detected in concentrations greater than the Industrial Area 2011 evaluation criteria in two of the borings and that TPH was also detected in a concentration greater than the Industrial Area criteria in one of those two borings. PCBs were detected in SB-04422 at depths of 5 feet and 10 feet bgs in concentrations of 85,000 µg/kg and 15,000 µg/kg respectively, and in SB-04425 at a depth of 7.5 feet in a concentration of 90,000 µg/kg, greater than the Industrial Area criteria of 10,000 µg/kg for PCBs. TPH was also detected in SB-04422 at a depth of 10 feet bgs in a concentration of 3,100 mg/kg, greater than the Industrial Area 2011 Evaluation criteria of 2,000 mg/kg for TPH. Analytical results for the soil exceedances were provided in Table 3 of Golder 2011c, and analytical results for all historical and recent IM soil samples are provided in Table 6 of Appendix A in this report.

Groundwater samples were collected in borings 2-40-DP-013 (14 to 18 feet bgs), GP-04404 (25 feet bgs) and GP-04405 (17 and 25 feet bgs). The sample from 2-40-DP-013 was analyzed for VOCs, SVOCs, PCBs, inorganics, and TPH, while the samples from GP-04404 and GP-04405 were analyzed for PCBs and TPH. The analytical results for the groundwater samples indicated that PCBs, iron, and bis(2-ethylyhexyl)phthalate were detected in 2-40-DP-013 in concentrations greater than the TMCLs. The analytical results for groundwater TMCL exceedances were included in Table 4 of Golder 2011c, and analytical results for all COC detections in groundwater samples were provided in Table 8 (Golder 2011c, Appendix A).

Excavation and Monitoring

During the demolition and removal of the concrete slabs, utilities, and machine pit at OA 21, additional soil excavation was conducted to remove the PCB- and TPH-impacted soil indicated by the analytical results above TSCA and Industrial Area 2011 evaluation criteria. The soil excavation extended to the depth of the water table (11 feet bgs) in the vicinity of SB-04422 and SB-04425, and was initially 30 feet long by 10 feet wide. The excavated native soil was managed as TSCA waste due to the PCB concentrations of >50,000 µg/kg detected in historical borings SB-04422 and SB-04425. Supplemental and confirmation sampling indicated additional impacted soil with PCB concentrations >1,000 µg/kg (the TSCA limit) around the edges of the excavation, so the excavation was ultimately expanded to approximately 80 feet long by 12 to 40 feet wide by 11 feet bgs, with a volume of approximately 600 cubic yards. The excavated soil was properly managed for characterization and disposal. During the demolition and removal of the concrete slabs, utilities and machine pit, the concrete was managed for appropriate characterization and handling. During the excavation, the exposed soil was visually observed for signs of staining. Groundwater was encountered in the bottom of the excavation, but no sheens were observed and no groundwater was removed.

Supplemental Sampling

Soil sampling was conducted to supplement existing data where the excavation occurred at and resulted in the removal of soil where previous RCRA samples had been collected. As such, four samples were initially collected from the excavation sidewall nearest the original locations of SB-04422 (2, 5, and 10 feet bgs) and SB-04425 (7.5 feet bgs). The supplemental samples near SB-04422 included P2IM-SM-124 (10 feet bgs), P2IM-SM-125 (5 feet bgs), and P2IM-SM-126 (2 feet bgs), and the samples were analyzed for PCBs and TPH. The sample near SB-04425 (P2IM-SM-129, 7.5 feet bgs) was analyzed for PCBs. The analytical results for the sampling indicated that TPH-Motor Oil Range was detected in P2IM-SM-124 in a concentration of 45,000 mg/kg, greater than the Industrial Area criteria of 2,000 mg/kg for that COC, and that PCBs were detected in a concentration of 6,500 µg/kg, greater than

the TSCA limit of 1,000 µg/kg for PCBs. As a result, the excavation was expanded to the southeast and additional confirmation sampling conducted.

Confirmation Sampling

Three confirmation samples were initially collected in the excavation to determine whether the impacted soil had been removed. One sample, P2IM-SM-123 was collected in the bottom of the excavation at a depth of 11 feet bgs, and two samples, P2IM-SM-127 and P2IM-SM-128 were collected from opposite sidewalls at a depth of approximately 5 feet bgs. The samples were analyzed for PCBs and TPH. TPH-Motor Oil Range was detected in P2IM-SM-123 in a concentration of 61,000 mg/kg, greater than the Industrial Area criteria of 2,000 mg/kg for that COC, and PCBs were detected in a concentration of 6,800 µg/kg, greater than the TSCA limit of 1,000 µg/kg, for PCBs, but no deeper excavation was performed at that location since the sample was collected at 11 feet bgs, the bottom of the vadose zone. No COCs were detected in concentrations above the Industrial Area 2011 evaluation criteria or the TSCA limits in P2IM-SM-127. PCBs were detected in P2IM-SM-128 in a concentration of 2,100 µg/kg, greater than the TSCA limit of 1,000 µg/kg for PCBs. The excavation was therefore expanded to the northwest and west as a result of the PCB level in the soil at the location of P2IM-SM-128.

As a result of the exceedances indicated for samples P2IM-SM-124 and P2IM-SM-128, the excavation was expanded from an initial size of 30 feet long by 10 feet wide by 11 feet deep, to a final size of approximately 80 feet long by 12 to 40 feet wide by 11 feet deep. Fourteen additional confirmation samples were collected while expanding the excavation to the southeast from the location of P2IM-SM-124, and 28 additional confirmation samples were collected while expanding the excavation to the northwest and west from the location of P2IM-SM-128. The expansion of the excavation to the southeast from P2IM-SM-124 was completed when the confirmation sampling indicated no detection of TPH above the Industrial Area 2011 evaluation criteria and no detection of PCBs.

The expansion of the excavation to the northwest and west from P2IM-SM-128 encountered new backfill materials in which PCB concentrations were unrelated to the original spill responsible for those PCB concentrations detected in the native soil at SB-04422, SB-04425, and P2IM-SM-128. As such, the new backfill material's PCB concentrations were managed under RCRA criteria (Industrial Area criteria, <10,000 µg/kg) rather than TSCA criteria (<1,000 µg/kg). The expansion of the excavation to the northwest and west was completed when the analytical results for confirmation sampling of the native soil indicated PCB concentrations below the TSCA limit of 1,000 µg/kg, and when the analytical results for new backfill materials around the perimeter of the expansion indicated PCB concentrations below the Industrial Area criteria of 10,000 µg/kg.

Summaries of the supplemental/confirmation sampling are presented in Tables 3 and 4, and the analytical data for the sampling is presented in Table 5 of Appendix A.

3.4.3 SWMU 2-41.30 Manhole Vault

SWMU 2-41.30 is located in the Stormwater Area and consisted of a sub-grade manhole vault of undetermined purpose in Building 2-41 (Figure 4, Golder 2011c; Figures 4 and 5 of this report). The vault measured 13 feet wide by 15 feet long and 13 feet deep, and contained a pump-out sump measuring 2 feet square by 2 feet deep. The vault was previously filled with water, which was analyzed and determined to be un-impacted by COCs. Visual inspection of the vault prior to sampling found no evidence of staining or a release. The RFI suggests that oily water was handled in the vault, but no known process chemicals were associated with this unit. The constituents of interest from the RFI included contaminants related to oily water, such as VOCs, PCBs, TPH and metals (Weston 2000b, 2001).

Historical Sampling

Four historical borings were located within a 25-foot radius of SWMU 2-41.30 (Figure 4, Golder 2011c). Soil samples were collected in three of the borings and groundwater samples were collected in two of the borings.

Three soil samples were collected in boring 2-40-DP-033 at depths of 1, 5, and 10 feet bgs, and analyzed for VOCs, inorganics, and TPH; and one soil sample was collected in each of borings SB-04130 and SB-04131 at approximate depths of 11 and 11.5 feet bgs respectively, and analyzed for VOCs, inorganics, PCBs and TPH. The analytical data from the soil samples were compared to TMCLs that were being used at the time of the evaluation. The results indicated that barium was detected in 2-40-DP-033 at a depth of 10 feet bgs in a concentration greater than the Stormwater Area 2010 evaluation criteria, selenium was detected in SB-04130 at a depth of 11 feet bgs in a concentration greater than the 2010 and 2011 Stormwater Area evaluation criteria, TCE was detected in SB-04130 at a depth of 11 feet bgs in a concentration greater than the old Stormwater Area criteria but less than the current Stormwater Area criteria, and TCE was detected in SB-04131 at a depth of 11.5 feet bgs in a concentration greater than the old Stormwater Area criteria but less than the current Stormwater Area criteria. The analytical results for the soil samples with exceedances of the old criteria were presented in Table 3 of Golder 2011c, and analytical results for all historical and recent soil samples compared to current criteria are presented in Table 6 of Appendix A in this report.

Groundwater samples were collected in borings 2-40-DP-033 (14, 29, 35, 45, and 65 feet bgs) and GP-04136 (15 feet bgs). The samples from 2-40-DP-033 were variously analyzed for VOCs, SVOCs,

polycyclic aromatic hydrocarbon (PAHs), inorganics, and TPH, while the sample from GP-04136 was analyzed for VOCs, inorganics, PCBs, and TPH. The analytical results for the groundwater samples indicated that iron and TCE (14 feet bgs), iron and nickel (45 and 65 feet bgs), and barium and manganese (65 feet bgs) were detected in 2-40-DP-033 in concentrations greater than the groundwater TMCLs. In GP-04136, aluminum, arsenic, cobalt, copper, iron, lead, nickel, zinc, and vinyl chloride were detected at a depth of 15 feet bgs in concentrations greater than the TMCLs. The analytical results for the groundwater screening level exceedances were included in Table 4 of Golder 2011c, and analytical results for all COC detections in historical and recent groundwater samples were provided in Table 8 (Golder 2011c, Appendix A).

Demolition Excavation and Monitoring

During the demolition and removal of the concrete slabs and manhole vault at SWMU 2-41-30 in spring/summer 2011, additional soil excavation was conducted to remove the TCE- and metals-impacted soil indicated by the analytical results above. The additional soil excavation extended to a radius of approximately 10 feet around the vault and to the depth of the water table, resulting in an excavation measuring approximately 33 feet long by 35 feet wide by 11 feet bgs, and consisting of approximately 70 cubic yards of concrete and 300 cubic yards of soil. The excavated materials were properly managed for characterization and disposal. Additional excavation to the bottom of the vadose zone (11 feet bgs) was subsequently completed in the area during the mass excavation of the northern portion of the Stormwater Area as described in Section 3.5.1.

Supplemental Sampling

Soil sampling was conducted to supplement existing data where the excavation occurred at and resulted in the removal of soil where previous RCRA samples had been collected. As such, five samples were collected from the excavation sidewalls nearest the original locations of 2-40-DP-033 (P2IM-SM-008 through P2IM-SM-010 respectively at 1, 5, and 10 feet bgs), SB-04130 (P2IM-SM-011 at 11 feet bgs) and SB-04131 (P2IM-SM-012 at 11.5 feet bgs). The supplemental samples near 2-40-DP-033 were analyzed for VOCs, inorganics, and TPH, and the samples near SB-04130 and SB-04131 were analyzed for VOCs, inorganics, PCBs, and TPH. No COCs were detected in P2IM-SM-008 through P2IM-SM-011 in concentrations above the Stormwater Area criteria. At P2IM-SM-012, PCBs were detected in a concentration of 126 µg/kg, greater than the Stormwater Area criteria of 33 µg/kg for that COC. No deeper excavation was performed at the location of P2IM-SM-012 since the sample was collected at 11.5 feet bgs, below the bottom of the vadose zone. The supplemental sample information is presented in Tables 3 and 4, and the soil analytical data is presented in Table 5 of Appendix A.

Confirmation Sampling

Three confirmation samples were collected in the excavation to confirm that impacted soil had been removed. Two samples, P2IM-SM-013 and P2IM-SM-014, were collected from opposite sidewalls at a depth of 6 feet bgs and one sample, P2IM-SM-015, was collected in the bottom of the excavation at a depth of 11 feet bgs. The samples were analyzed for VOCs, inorganics, PCBs and TPH. No COCs were detected in P2IM-SM-013 and P2IM-SM-014 in concentrations above the Stormwater Area criteria. At P2IM-SM-015, PCBs were detected in a concentration of 118 µg/kg, greater than the Stormwater Area criteria of 33 µg/kg for that COC. No deeper excavation was performed at the location of P2IM-SM-015 since the sample was collected at 11 feet bgs, below the level of the groundwater table. The confirmation sample information is presented in Tables 3 and 4, and the soil analytical data is presented in Table 5 of Appendix A.

3.4.4 SWMU 2-41.36 Underflow Flume

SWMU 2-41.36 (Figure 4, Golder 2011c; Figures 4 and 5 of this report) was a concrete underflow flume measuring 200 feet long, with a cross-section 4 to 6 feet wide by 1 to 2 feet deep, located beneath the floor of Building 2-41 (Weston 1998). The structure transected the Industrial, Stormwater, and Habitat Areas. The western-most 50 feet of the Underflow Flume extended to the Duwamish Waterway, historically conveying rinse waters and exhaust from the Anodic Tank Line to the Duwamish Waterway. The exhaust duct portion of the flume was redirected to roof scrubbers from 1959 to 1987, when it was abandoned in place. The analysis of residuals associated with the flume indicated that metals and cyanide were present within the solids removed from the flume. The flume was cleaned and its former discharge point blocked concurrently with the decommissioning of the Anodic Tank Line in 1993. Impacted sediment near the Underflow Flume was removed from the Duwamish Waterway during an interim measure conducted in 1997 (Weston 1998). Potential constituents of interest were VOCs, SVOCs, and inorganics, including cyanide and hexavalent chromium.

Demolition did not result in slab or subsurface removals west of Column 24. That portion of the underflow flume will be removed during DSOA activities. The portion of the flume east of Column 24 was removed during demolition and redevelopment activities as discussed below.

Historical Sampling

Five historical borings were located within a 25-foot radius of SWMU 2-41.36, east of Column 24, including 2-40-DP-031, DP-4120, SB-04112, SB-04113 and SB-04114 (Figure 4, Golder 2011c). Three of those borings, DP-4120, SB-04112, and SB-04113 were completed for the purpose of investigating soil and groundwater beneath the tunnel floor at SWMU 2-31.34 Tunnel Area, and were therefore discussed

in Section 3.6.5 of Golder 2010c. The remaining two borings, 2-40-DP-031 and SB-04114 were located in the Stormwater Area and are discussed herein. Three soil samples were collected from each 2-40-DP-031 and SB-04114 at depths of approximately 1, 5 and 10 feet bgs. Samples from both borings were analyzed for VOCs, SVOCs, and inorganics, and the samples from 2-40-DP-031 were also analyzed for PAHs and PCBs. The analytical data from the samples were originally compared to the 2010 evaluation criteria that were being used when Golder 2010c was issued, and cyanide was detected in SB-04114 at a depth of 1 foot bgs in a concentration of 0.74 mg/kg, greater than the 2010 evaluation criteria of 0.2 mg/kg, but less than the Stormwater Area 2011 evaluation criteria of 20 mg/kg for cyanide. The analytical results for the six soil samples, when compared to the Stormwater Area 2011 evaluation criteria, indicate that hexavalent chromium was detected in SB-04114 at a depth of 10 feet bgs in a concentration of 1.4 mg/kg, greater than the Stormwater Area 2011 evaluation criteria of 1.2 mg/kg.

In addition to the soil samples collected in the borings, four soil samples were collected during the excavation of a recently installed duct bank. The sample locations, located in the Stormwater Area, were shown in Figure 4 of Golder 2011c and included P2IM-DB-007 (1.5 feet bgs), P2IM-DB-008 (4.5 feet bgs), P2IM-DB-009 (9.5 feet bgs), and P2IM-DB-017 (6 feet bgs). Samples P2IM-DB-007, -008, and -009 were collected at the same horizontal location, but at the depths indicated above. All four samples were analyzed for VOCs, SVOCs, PAHs, inorganics, PCBs and TPH, and the results were compared to the current Stormwater Area criteria. The analytical results indicated that PCBs were detected at P2IM-DB-009 at 9.5 feet bgs in a concentration of 110 µg/kg, greater than the Stormwater Area 2011 evaluation criteria of 33 µg/kg. The analytical results for the soil samples with exceedances of the Stormwater Area 2011 evaluation criteria were presented in Table 3 of Golder 2011c, and analytical results for all historical and recent soil samples compared to current applicable criteria are presented in Table 6 of Appendix A in this report.

Groundwater samples were collected in borings 2-40-DP-031 (10 to 14 feet bgs) and DP-4120 (10 to 15 feet bgs). The sample from 2-40-DP-31 was analyzed for VOCs, SVOCs, PAHs, inorganics, and PCBs, and the sample from DP-4120 was analyzed for inorganics. The analytical results indicated that aluminum, cyanide, and iron were detected at 10 to 14 feet bgs in concentrations above the groundwater TMCLs in 2-40-DP-031, and aluminum, cobalt, cyanide, and iron were detected at 10 to 15 feet bgs in concentrations above the groundwater TMCLs in DP-4120. The analytical results for the TMCL exceedances were included in Table 4 of Golder 2011c, and analytical results for all COC detections in the groundwater sample were provided in Table 8 (Golder 2011c, Appendix A).

Demolition Excavation and Monitoring

During the demolition and removal of the concrete underflow flume east of Column 24 in spring 2011, additional soil excavation was completed to remove soil containing cyanide that was detected at a depth of 1 foot bgs in boring SB-04114. The cyanide concentration exceeded the TMCL that was being used when the excavation was conducted, but does not exceed the current Stormwater Area criteria for that constituent. The soil excavation was centered on boring SB-04114, and was approximately 4.5 feet deep by 5 feet wide by 10 feet long. The excavated soil was properly managed for characterization and disposal. During the demolition and removal of the underflow flume, the concrete was managed for appropriate characterization and handling. Additional excavation to the depth of the groundwater level was completed as described below to remove the soil in SB-04114 at 10 feet bgs that contained hexavalent chromium, before the mass excavation of the northern one-third of the Stormwater Area as described in Section 3.5.1.

Supplemental Sampling

Soil sampling was conducted to supplement existing data where the excavation occurred at and resulted in the removal of soil where previous RCRA samples had been collected. One sample, P2IM-SM-001 was collected from the excavation sidewall nearest the original location of SB-04114 at 1 foot bgs. The supplemental sample was analyzed for VOCs, SVOCs, and inorganics, and no COCs were detected in concentrations above the Stormwater Area criteria. The supplemental sample information is presented in Tables 3 and 4, and the soil analytical data is presented in Table 5 of Appendix A.

Confirmation Sampling

Three confirmation samples were collected in the excavation to assess whether impacted soil had been removed. Two samples, P2IM-SM-002 and P2IM-SM-003 were collected from opposite sidewalls at a depth of approximately 2 feet bgs and one sample, P2IM-SM-004, was collected in the bottom of the excavation at a depth of 4.5 feet bgs. The samples were analyzed for cyanide as a result of the TMCLs that were being used when the excavation was completed. Cyanide was not detected in these samples.

Two additional samples, P2IM-SM-006 and P2IM-SM-007, were collected from opposite sidewalls of the excavation at a depth of 6 feet bgs to investigate for potentially impacted soil based on visual observations, and the samples were analyzed for VOCs, SVOCs, PAHs, metals, cyanide PCBs and TPH. The analytical results for P2IM-SM-006 indicated the detection of PCBs in a concentration of 41,000 µg/kg, greater than the Stormwater Area criteria of 33 µg/kg. The analytical results for P2IM-SM-007 indicated the detection of PCBs in a concentration of 3,400,000 µg/kg, TPH-Bunker C in a

concentration of 9,700 mg/kg and TPH-Motor Oil Range in a concentration of 3,500 mg/kg, each of which was greater than the pertinent Stormwater Area criteria.

The excavation was expanded eastward and westward, and deepened to 11 feet bgs to remove the PCBs and TPH detected in P2IM-SM-006 and P2IM-SM-007. The total excavation measured approximately 60 feet long by 11 feet wide by 11 feet deep, had an approximate volume of 275 cubic yards, and the soil was properly managed for characterization and disposal. In the westward expansion of the excavation, seven additional confirmation samples, P2IM-SM-022 to P2IM-SM-028, were collected at depths of 6 to 11 feet bgs and analyzed for PCBs and cyanide. In the eastward expansion of the excavation, five additional confirmation samples, P2IM-SM-031 through P2IM-SM-035 were collected at depths of 6 to 11 feet bgs, and also analyzed for PCBs and cyanide. The analytical results indicated that PCBs were detected in P2IM-SM-023 at a depth of 6 feet bgs in a concentration of 170 µg/kg, and at P2IM-SM-035 at a depth of 6 feet bgs in a concentration of 110 µg/kg, greater than the Stormwater Area criteria of 33 µg/kg for PCBs. Additional excavation of the whole northern 1/3 of the Stormwater Area to 11 feet bgs was subsequently completed as described in Section 3.5.1, thereby addressing the PCB exceedances at 6 feet bgs in P2IM-SM-023 and P2IM-SM-035. The confirmation sample information is presented in Tables 3 and 4, and the soil analytical data is presented in Table 5 of Appendix A.

3.5 SOIL EXCAVATIONS COMPLETED DURING REDEVELOPMENT PHASE

Soil excavations were completed in or adjacent to the demolition area during the redevelopment phase of the project to accommodate land redevelopment activities, to leverage opportunities to remove impacted soils in conjunction with those activities, and to the extent possible, to preclude future excavations in the project area after old utilities were removed and new utilities were installed. Excavations were completed in association with the removal and replacement of old utilities and stormwater system components throughout the project site, the installation of a new wall at Building 2-31, and the demolition/redevelopment activity more generally, including in areas to remove soil that may have been affecting groundwater quality.

3.5.1 Stormwater Area

In September 2010, Boeing submitted to the EPA the *Stormwater System Work Plan To Control Storm Drain Discharges For Boeing Plant 2* (Golder 2010b). Included in that work plan were the conceptual design for the site-wide reconfiguration of stormwater lines and outfalls, and a discussion of potential stormwater treatment options. The September 2010 work plan was approved by EPA in October 2010. Subsequent to the approval of the work plan, Boeing completed the detailed design for the 2-40s Area and 2-60s/2-66 Area stormwater system in accordance with the objectives indicated in the approved work

plan. The system design was shared with the City of Tukwila as part of the permit application process to construct the system.

The new stormwater system (Figure 7) was installed in the footprint of the demolition/redevelopment area, and includes new inlets, storm drain lines, manholes, perimeter connections from existing drainage systems to the new drainage and treatment systems (five lined bioswales and three treatment vaults). The stormwater system bio-swales and treatment vaults are located within the unpaved South Plant 2 Stormwater Area. The three new outfalls shown on Figure 7 will be installed during DSOA and Southwest Bank activities. Until that time, discharge from the bio-swales will be pumped to Line Z for discharge. The new stormwater system was constructed after buildings and slabs were removed and impacted soil was excavated in accordance with Golder 2011c.

As a result of widespread though discontinuous soil COC concentration exceedances of the applicable TMCL evaluation criteria (those being used in Golder 2011c) in the vicinity of the new stormwater system bioswales and vaults, excavations were conducted to remove soil from the ground surface to 11 feet bgs in approximately the northern one-third of the Stormwater Area and in or adjacent to approximately the southern one-third of the Stormwater Area. The most significant driver of the decision to excavate the northern and southern thirds of the Stormwater Area was based upon the scattered exceedances of the soil screening criteria for TCE and the tentative nature of TMCLs in review at that point in time. The preliminary TCE criteria for the Stormwater and the Industrial Areas were 18 µg/kg and 270 µg/kg respectively when the work was performed in 2012. While there was no presumption that these excavations alone would be considered a final remedy, this approach was expected to be consistent with that which would be required as part of a final remedy for this part of Plant 2. The excavation areas are shown in Figures 4 and 5.

The excavation of the northern one-third of the Stormwater Area was located in the footprint of Building 2-41, as shown in Figures 4 and 5. Most of the excavation was located within the Stormwater Area (Figure 3), but a small portion of the north end of the excavation was located in the Paved Shoreline Area and a small portion of the northeast end of the excavation was located in the Industrial Area.

The excavation of the southern one-third of Stormwater Area was located in a portion of the footprint of Building 2-49 and extended across the 2-66 Area as shown in Figures 4 and 5. The portion of the excavation in the 2-66 Area was generally located between the Southwest Bank and the duct bank that was installed in 2010. Additional excavations were also completed in the 2-66 Area on the upland side of the duct bank and in the sheetpile containment structure to address additional impacted soil in those areas. The excavation included portions of the Stormwater Area and the Industrial Area. The excavations did not disturb the new duct bank, but tied-in to the fill material that was placed beneath and

adjacent to the duct bank when it was installed in 2010. The fill was evident by the plastic sheeting or geotextile that was used to line the invert and sidewalls of the duct bank excavation.

Historical Sampling – North Excavation

Fifty-seven historical borings were located within the footprint of the excavation of the northern one-third of the Stormwater Area. Soil samples were collected in 45 of the borings, and groundwater samples were collected in 30 of the borings.

Soil samples from the borings were collected at depths ranging from 1 to 15 feet bgs, and variously analyzed for VOCs, SVOCs, PAHs, inorganics, PCBs, and TPH. Analytical data for soil samples were initially compared to the applicable 2011 evaluation criteria (draft TMCLs) for the Stormwater Area. COCs were variously detected in concentrations greater than the draft TMCLs in 16 of the borings (Figure 4, Golder 2011c). The analytical results for the soil samples with exceedances of the draft TMCLs were presented in Table 3 of Golder 2011c, analytical results for soil samples with all COC detections were presented in Table 7 of Appendix A of Golder 2011c, and all historical and recent soil analytical data and current screening criteria are presented in Table 6 of Appendix A in this report.

Groundwater samples from the borings were collected at depths ranging from 8 to 81 feet bgs, and variously analyzed for VOCs, SVOCs, PAHs, inorganics, PCBs, and TPH. Analytical data for the groundwater samples were compared to the groundwater TMCLs. COCs were variously detected in concentrations above the TMCLs in 17 of the borings. The analytical results for the exceedances were presented in Table 4 of Golder 2011c, and analytical results for all COC detections in the groundwater samples were presented in Table 8 (Golder 2011c, Appendix A).

Historical Sampling – South Excavation

One hundred forty-six historical borings were located within the footprint of the excavation of the southern one-third of the Stormwater Area. Soil samples were collected in 125 of the borings, and groundwater samples were collected in 53 of the borings.

Soil samples from the borings were collected at depths ranging from 1 to 94 feet bgs, and variously analyzed for VOCs, SVOCs, PAHs, inorganics, PCBs, and TPH. Analytical data for soil samples were initially compared to the applicable 2011 evaluation criteria for the Stormwater Area, Habitat Area and Industrial Area. COCs were variously detected in concentrations greater than the applicable area criteria in 67 of the borings (Figure 4, Golder 2011c). The analytical results for the soil samples with exceedances of the criteria were presented in Table 3 of Golder 2011c, analytical results for soil samples with all COC detections were presented in Table 7 of Appendix A of Golder 2011c, and all historical and

recent soil analytical data and current screening criteria are presented in Table 6 of Appendix A in this report.

Groundwater samples from the borings were collected at depths ranging from 5 to 95 feet bgs, and variously analyzed for VOCs, SVOCs, PAHs, inorganics, PCBs, and TPH. Analytical data for the groundwater samples were compared to the groundwater TMCLs. COCs were variously detected in concentrations greater than the TMCLs in all 53 of the borings. The analytical results for the exceedances were presented in Table 4 of Golder 2011c, and analytical results for all COC detections in the groundwater samples were presented in Table 8 (Golder 2011c, Appendix A).

Preliminary Excavations in Stormwater Area

Several RCRA units (Figure 4) were located in or partially in the Stormwater Area excavations:

- Sump SPL-041-160 (discussed in Section 3.7.2 of Golder 2010c)
- Area of Concern (AOC) 2-66.53, TCE Degreaser (discussed in Section 3.7.14 of Golder 2011b)
- OA 14, Building 2-49 Machine Pits (discussed above in Section 3.4.2)
- SWMU 2-41.30, Manhole Vault (discussed above in Section 3.4.4)
- SWMU 2-41.36, Underflow Flume (discussed above in Section 3.4.5)
- OA 1, Building 2-66 Southwest and OA 2, Building 2-66 Soil (discussed in Section 3.7.15 of Golder 2011b)

Soil excavations at OA 14, SWMU 2-41.30 and SWMU 2-41.36 were completed before the mass excavations in the north one-third and south one-third of the Stormwater Area as described above in Sections 3.4.1, 3.4.4, and 3.4.5 respectively, and shown in Figures 4 and 5. These excavations were completed in advance of the much larger Stormwater Area mass excavations to accommodate the segregation, characterization and disposal of soils with disposal profiles different than those soils in the mass excavations.

In addition to the RCRA unit soil excavations described above, several non-RCRA Unit-related soil excavations were completed in advance of the mass Stormwater Area excavations for the same purpose of segregating, characterizing, and disposing of soils with different disposal profiles than those soils in the mass excavations. In the north one-third of the Stormwater Area, an excavation was completed at the location of boring SB-04136, and in the south one-third of the Stormwater Area approximately 10 excavations were completed. The smaller excavations that were completed in advance of the mass excavations are shown as cross-hatched areas on Figures 4 and 5.

During the excavation at SB-04136 in the north one-third of the Stormwater Area, three samples (P2IM-SM-005, P2IM-SM-036 and P2IM-SM-037) were initially collected to assess potentially impacted soils. Based upon the analytical results for these samples, the excavation was expanded and confirmation sampling was conducted to define the final limits of the excavation. Twenty confirmation samples were collected, including P2IM-SM-029, P2IM-SM-030, and P2IM-SM-056 to P2IM-SM-073. The sampling information is presented in Tables 3 and 4, and the analytical results for the samples are presented in Table 5 of Appendix A. Approximately 220 cubic yards of soil were ultimately removed from this excavation and properly characterized and disposed.

Of the ten smaller excavations in the south one-third of the Stormwater Area, two were labeled as 2-66-DP-30 and PL2-013B/PL2-607 and the other eight were unlabeled (Figures 4 and 5). Only waste characterization samples were collected for soil profiling purposes in these excavations and no supplemental or confirmation samples were collected because the whole area was later excavated to a depth of 11 feet bgs. A total of approximately 1,100 cubic yards of soil was excavated in the 10 small excavations, and the soil was properly characterized and disposed.

Mass Stormwater Area Excavations

After the preliminary excavations were completed in the footprint of the Stormwater Area, the soil in the northern one-third of the Stormwater Area and in the southern one-third of the Stormwater Area was removed to the bottom of the vadose zone, a depth of 11 feet bgs. Approximately 18,000 cubic yards of soil were removed from the north Stormwater Area excavation, and approximately 24,000 cubic yards of soil were removed from the south Stormwater Area excavation. The excavated soil was properly managed for characterization and reuse or disposal as appropriate.

Supplemental Sampling

In the excavation of the northern third of the Stormwater Area, suites of supplemental samples were collected at three locations on each the north and south faces of the excavation. The locations were spaced on approximate 50-foot centers, and samples were collected at each location at depths of 0 to 1 foot bgs, 4 to 5 feet bgs, and 9 to 10 feet bgs. The nine supplemental samples on the north edge of the excavation included P2IM-SM-038 through P2IM-SM-046. On the south edge of the excavation, the nine supplemental samples included P2IM-SM-047 through P2IM-SM-055. The samples were analyzed for VOCs, SVOCs, PAHs, metals (and cyanide), PCBs, and TPH. No samples were collected on the east and west edges of the excavation, because the soil at those locations consisted of recently placed tunnel fill material on the east side and duct bank fill material on the west side.

In the excavation of the southern third of the Stormwater Area, suites of supplemental samples were collected at four locations on the north face of the excavation, and at ten locations on the east face of the excavation. The locations were spaced on approximate 50-foot centers, and samples were generally collected at depths of 0 to 1 foot bgs, 4 to 5 feet bgs, and 9 to 10 feet bgs. Eight samples were collected on the north edge of the excavation, and included P2IM-SM-163 through P2IM-SM-170. Twenty-eight samples were collected on the east edge of the excavation, and included P2IM-SM-171 to P2IM-SM-174, P2IM-SM-201 to P2IM-SM-203, P2IM-SM-207 to P2IM-SM-209, P2IM-SM-237 to P2IM-SM-245, and P2IM-SM-255 to P2IM-SM-263. The samples were analyzed for VOCs, SVOCs, PAHs, metals (and cyanide), PCBs, and TPH. The supplemental sample information is presented in Tables 3 and 4, and the soil analytical data is presented in Table 5 of Appendix A. No samples were collected on the south edge of the excavation because the excavation abuts the sheetpile containment structure, and no samples were collected on west edge of the excavation, because the soil in that area will be removed during DSOA and Southwest Bank activities.

Confirmation Sampling

Confirmation samples were collected at the north and south Stormwater Area excavations at locations where supplemental sample analytical data indicated exceedances of the pertinent Stormwater Area or Industrial Area criteria.

In the north Stormwater Area excavation, analytical data for supplemental sample P2IM-SM-040 (1 foot bgs) indicated a PCB concentration of 160 µg/kg. The sample is actually located in the Paved Shoreline Area, which did not exist at the time of the excavation. During the excavation, the sample location was identified with the Stormwater Area, and the Stormwater Area criteria for PCBs is 33 µg/kg. The PCB concentration in P2IM-SM-040 was considered an exceedance of the criteria, and the excavation was therefore expanded northward from that location (10 feet long x 10 feet wide x 5 feet deep). Confirmation sample P2IM-SM-040.01 was collected at 1 foot bgs on the north end of the expanded excavation (Figure 5), and the sample was analyzed for PCBs. The PCB concentration in P2IM-SM-140.01 was 33 µg/kg, also considered an exceedance of Stormwater Area criteria of 33 µg/kg for PCBs. The excavation was again extended another 5 to 6 feet north, at which point the excavation intercepted the clean fill material that was placed during the duct bank installation in 2010.

Similarly on the north edge of the north Stormwater Area excavation, analytical data for supplemental sample P2IM-SM-043 (1 foot bgs) indicated a PCB concentration of 380 µg/kg. The sample is actually located in the Paved Shoreline Area that did not exist at the time of the excavation. During the excavation, the sample location was identified with the Stormwater Area, and the PCB concentration of 380 µg/kg exceeded the Stormwater Area criteria of 33 µg/kg. The excavation was therefore expanded

approximately 10 feet northward at a depth of 5 feet bgs, and confirmation sample P2IM-SM-043.01 was collected from the north edge of the expanded excavation at a depth of 1 foot bgs (Figure 5). The sample was analyzed for PCBs, and no PCBs were detected in a concentration above the reporting limit.

On the south end of the north Stormwater Area excavation, analytical data for supplemental samples P2IM-SM-047 (10 feet bgs), P2IM-SM-048 (5 feet bgs), P2IM-SM-050 (10 feet bgs), indicated respective PCB concentrations of 40 µg/kg, 36 µg/kg, and 50 µg/kg, the concentrations of which exceeded the Stormwater Area criteria of 33 µg/kg for PCBs. The south end of the excavation was therefore expanded approximately 10 feet southward at a depth of 11 feet bgs (Figure 5). Confirmation samples P2IM-SM-47.01 (10 feet bgs) and P2IM-SM-050.01 (10 feet bgs) were collected from the south end of the expanded excavation and analyzed for PCBs. The analytical results for these confirmation samples indicated the detection of no PCB concentrations above the Stormwater Area criteria for PCBs.

At the southeast corner of the north Stormwater Area excavation, analytical data for supplemental sample P2IM-SM-053 (10 feet bgs) indicated a PCB concentration of 39 µg/kg, greater than the Stormwater Area criteria of 33 µg/kg for PCBs. A small excavation was expanded 10 feet southward from that location at a depth of 11 feet bgs, and confirmation sample P2IM-SM-053.01 (10 ft bgs) was collected from the south end of expanded excavation and analyzed for PCBs. The analytical results for P2IM-SM-053.01 indicated a PCB concentration of 40 µg/kg, greater than the Stormwater Area criteria of 33 µg/kg for PCBs. The small excavation was then expanded further southward approximately 15 feet at depth of 11 feet bgs, and confirmation sample P2IM-SM-053.02 was collected. The sample was analyzed for PCBs, and the analytical results indicated a PCB concentration of 11 µg/kg, less than the Stormwater Area criteria of 33 µg/kg.

In the south Stormwater Area excavation, analytical data for supplemental samples P2IM-SM-163 (10 feet bgs) and P2IM-SM-165 (1 foot bgs) indicated respective PCB concentrations of 108 µg/kg and 230 µg/kg, greater than the Stormwater Area criteria of 33 µg/kg for PCBs. The excavation was therefore expanded northward from that location, and confirmation samples P2IM-SM-163.01, P2IM-SM-164.01, and P2IM-SM-165.01 were then collected from the northern edge of the additional excavation at 10 feet, 6 feet, and 1 foot bgs respectively. The confirmation samples were analyzed for PCBs, and the results indicated that no PCBs were detected above reporting limits.

Similarly on the north edge of the south Stormwater Area excavation, analytical data for supplemental samples P2IM-SM-166 (10 feet bgs), P2IM-SM-167 (6 feet bgs), and P2IM-SM-168 (1 foot bgs) indicated respective PCB concentrations of 11,000 µg/kg, 121 µg/kg, and 270 µg/kg, greater than the Stormwater Area criteria of 33 µg/kg for PCBs. Additionally, total carcinogenic PAH (cPAH) was detected in the sample from P2IM-SM-166 in a concentration of 20,200 µg/kg, greater than the Stormwater Area criteria

of 140 µg/kg for that COC. The excavation was therefore expanded northward from that location, and confirmation samples P2IM-SM-166.01, P2IM-SM-167.01, P2IM-SM-168.01 and P2IM-SM-196 to P2IM-SM-198 were then collected from the northern edge of the additional excavation at depths between 1 foot and 10 feet bgs. The confirmation samples were analyzed for PCBs and PAHs, and the results indicated that PCBs were detected in P2IM-SM-198 at a depth of 1 foot bgs in a concentration of 38 µg/kg, greater than the Stormwater Area criteria of 33 µg/kg for PCBs. The PCB-impacted soil at the location of P2IM-SM-198 was removed and properly managed for characterization and disposal when the stormwater bio-swale was excavated at that location.

On the east edge of the south Stormwater Area excavation, supplemental sample P2IM-SM-255 (10 feet bgs) was located in the Industrial Area, and analytical data for the sample indicated TPH-Bunker C and TPH-Motor Oil Range concentrations of 19,000 mg/kg and 4,700 mg/kg respectively, greater than the Industrial Area criteria of 2,000 mg/kg for both COCs. The excavation was therefore expanded eastward from that location, and confirmation samples P2IM-SM-255.01, P2IM-SM-256.01, and P2IM-SM-257.01 were then collected from the eastern edge of the additional excavation at 10 feet, 5 feet, and 1 foot bgs respectively. The confirmation samples were analyzed for VOCs and TPH, and the results indicated the detection of no COCs in concentrations above the Industrial Area criteria. Confirmation sample information is presented in Tables 3 and 4, and the soil analytical data is presented in Table 5 of Appendix A.

3.5.2 2-66 Area Sheetpile Containment Structure

The sheetpile containment structure is located in the Industrial Area in the southwest portion of the 2-66 Area. A significant VOC release in the soil and groundwater adjacent to Building 2-66 was identified during the RFI. The TCE release was associated with a former TCE tank, fill port, vault, and piping (Weston 1995).

Three historical IMs have been performed in this area of the site. In 1994 a sheetpile containment structure was installed in the southwest corner of the former Building 2-66 location to contain the bulk of high-concentration VOCs in soil and groundwater and to prevent their possible migration downgradient to the Duwamish Waterway. The sheetpile containment structure consists of a 50-foot deep barrier of interlocking and sealed steel sheet piles that was installed around the areas of most significant VOC impacts. A 2001 study concluded that, based on hydraulic and contaminant concentration data, the 2-66 sheetpile structure was effectively containing the bulk of contamination in both soil and groundwater (Weston 2001).

In 2004, two density-driven convection (DDC) wells were installed inside the sheetpile to remediate vadose zone soil and groundwater within the 2-66 Sheetpile structure. Results of a soil and groundwater sampling investigation performed in 2006 indicated that the chlorinated VOC mass inside the sheetpile was reduced by approximately 98 percent in both soil and groundwater. At that time Boeing and EPA concluded that continued operation of the DDC system to remediate the last few hundred pounds of VOCs would be inefficient and remediation could be more effectively and efficiently performed using in situ Enhanced Reductive Dechlorination (ERD).

The ERD IM was initiated in October 2008 with an initial injection of nutrient substrate in a grid pattern within the 2-66 sheetpile structure. Groundwater monitoring confirmed that geochemical conditions necessary for ERD were achieved. A second nutrient injection was performed in May 2010 to continue the ERD process, which was effectively reducing contaminant concentrations based on groundwater samples from wells inside of the sheetpile.

In 2011, ongoing demolition and construction work at Plant 2 resulted in limited access to monitoring wells associated with the 2-66 ERD IM. In addition, heavy truck traffic through the area containing the 2-66 ERD IM monitoring well network has made groundwater sampling unreasonably dangerous and disruptive to surrounding operations. Boeing requested approval from the EPA to discontinue groundwater monitoring and reporting associated with the 2-66 ERD IM and transition this IM into the CMS process. EPA approved Boeing's request to terminate ongoing groundwater monitoring and reporting associated with the 2-66 ERD IM in an email dated June 2, 2011.

Historical Sampling within Sheetpile Containment Area

Fifty-eight historical borings were located within the sheetpile enclosure. Soil samples were collected in 43 of the borings, and groundwater samples were collected in 27 of the borings.

Soil samples from the borings were collected at depths ranging from 2 to 95 feet bgs, and variously analyzed for VOCs, inorganics, and TPH. Analytical data for soil samples were compared to the 2011 evaluation criteria for the Industrial Area. COCs were variously detected in concentrations greater than the Industrial Area criteria in 24 of the borings (Figure 4, Golder 2011c). The analytical results for the soil samples with exceedances of the Industrial Area criteria were presented in Table 3 of Golder 2011c, and analytical results for all soil samples are presented in Table 6 of Appendix A in this report.

Groundwater samples from the borings were collected at depths ranging from 5 to 90 feet bgs, and variously analyzed for VOCs, metals, PCBs, and TPH. Analytical data for the groundwater samples were compared to the groundwater TMCLs. COCs were variously detected in concentrations greater than the

TMCLs in 25 of the borings. The analytical results for the exceedances were presented in Table 4 of Golder 2011c, and analytical results for all COC detections in the groundwater samples were presented in Table 8 (Golder 2011c, Appendix A).

Historical Sampling around Perimeter of Sheetpile Containment Structure

Excluding the borings located in the Stormwater Area south excavation (Section 3.5.1) on the north side of the sheetpile containment structure, 26 historical borings were located within a 25-foot radius around the perimeter of the sheetpile structure. Soil samples were historically collected in 20 of the borings, and groundwater samples were collected in 15 of the borings.

Soil samples from the borings were collected at depths ranging from 1 to 30 feet bgs, and variously analyzed for VOCs, SVOCs, PAHs, inorganics, PCBs and TPH. Analytical data for soil samples were compared to the applicable 2011 area evaluation criteria. COCs were variously detected in concentrations greater than the applicable criteria in five of the borings (Figure 4, Golder 2011c). The analytical results for the soil samples with exceedances of the Industrial Area criteria were presented in Table 3 of Golder 2011c, and analytical results for all soil samples are presented in Table 6 of Appendix A in this report.

Groundwater samples from the borings were historically collected at depths ranging from 7 to 80 feet bgs, and variously analyzed for VOCs, SVOCs, PAHs, metals, PCBs and TPH. Analytical data for the groundwater samples were compared to the 2011 groundwater TMCLs. COCs were variously detected in concentrations greater than the TMCLs in all 15 of the borings. The analytical results for the exceedances were presented in Table 4 of Golder 2011c, and analytical results for all COC detections in the groundwater samples were presented in Table 8 (Golder 2011c, Appendix A).

Demolition and Redevelopment Excavation and Monitoring

The bulk of the sheetpile containment structure will be left intact for the foreseeable future to contain residual concentrations of contaminants in saturated soil (>11 feet bgs) and groundwater, and potentially accommodate additional treatment of groundwater. The remediation of the soil in the sheetpile structure was substantially, though not fully, completed by the DDC IM. However, excavation of soil just outside the sheetpile in the adjacent Stormwater Area excavation or, in the future, in the vicinity may result in excessive loading on the sheetpile, affecting the stability of the sheetpile and the integrity of the seal (barrier) provided by the sheetpile. As such, the soil inside the sheetpile containment area was excavated simultaneously with the excavations around most of the perimeter of the containment area. Excavated soils were visually observed for signs of staining, and a photoionization detector (PID) was used as needed to monitor the soils for VOCs.

The full volume of vadose zone soil (0 to 11 feet bgs) within the sheetpile structure was excavated. Additionally, a strip of soil 7 feet wide by 5 feet deep (Figures 4 and 5) was excavated immediately south (South Yard) and east (upland) of the sheetpile structure while the soil inside the structure was being excavated, to eliminate the failure or risk of controlled failure of the sheetpile structure. All excavated soil was properly managed for characterization and disposal. After excavating the soil inside the sheetpile containment structure to 11 feet bgs, a commercially available substrate product, Regenesis HRC, was applied to the excavation groundwater surface, and blended with underlying soil between 11 feet and 13 feet bgs, before the excavation was backfilled with clean soil. The substrate application was performed as an opportunity afforded by the redevelopment excavation to achieve favorable geochemical conditions and enhance bacterial populations in anticipation of comprehensive remedies performed as part of corrective measures implementation.

Supplemental Sampling

No supplemental samples were collected in the sheetpile containment area or in the small excavation strip on the south and east side of the containment area. The soil in the containment area was removed to a depth of 11 feet bgs, the approximate depth of the groundwater, and clean soil was used to backfill the excavation.

Confirmation Sampling

No confirmation samples were collected inside the sheetpile containment area because the soil was removed to a depth of 11 feet bgs and clean soil was used to backfill the excavation. However, six confirmation samples were collected in the excavation strip on the south and east sides of the containment structure. Samples P2IM-SM-251 to P2IM-SM-254 were collected in the Industrial Area just south of the containment structure, and samples P2IM-SM-264 (5 feet bgs) and P2IM-SM-265 (1 foot bgs) were collected in the Industrial Area on the east side of containment structure. All of these samples were analyzed for VOCs, metals, PCBs, and TPH. No COCs were detected in concentrations greater than the Industrial Area criteria. The confirmation sample information is presented in Tables 3 and 4, and the soil analytical data is presented in Table 5 of Appendix A.

3.5.3 OA 9 Former USTs PL-16, 17, 18, & SWMU 2-78.6 Oil Water Separator

OA 9 is located in the Industrial Area, south of Building 2-44 and east of Building 2-51 (Figures 4 and 5), and consisted of three former 3,333 gallon USTs (PL-16, -17, and -18). The tanks reportedly contained fuel. SWMU 2-78.6 was an oil-water separator that was part of the area encompassed by OA-9. The oil/water separator was designed to collect stormwater runoff and remove any residual oils and other petroleum hydrocarbons mixed with stormwater that may have been released by motor vehicles and

incidental site activities. The USTs were installed in 1950 and removed in 1986. Along with the removal of the tanks in 1986, approximately 20 cubic yards of impacted soil were removed and disposed of off-site. The potential COCs associated with these tanks included TPH.

Historical Sampling

Twelve borings were located within the footprint of OA 9 (Figure 4 of Golder 2011c). As reported in Golder 2011c, soil samples were collected in ten of the borings and groundwater samples were collected in eight of the borings. The soil samples were collected at depths ranging from 1 to 15 feet bgs, and variously analyzed for VOCs, SVOCs, polycyclic aromatic hydrocarbons (PAHs), inorganics, PCBs, and TPH. The analytical results for the soil samples indicated that TPH (gasoline range) was detected in concentrations greater than the Industrial Area criteria in four of the borings at depths ranging from 5 to 15 feet bgs, and that cobalt was detected in a concentration greater than the Industrial Area criteria in one boring at a depth of 3 feet bgs. Analytical results for the soil exceedances were provided in Table 3 of Golder 2011c, and analytical results for all historical and recent soil samples are provided in Table 6 of Appendix A of this report.

The groundwater samples were collected at depths between 6 and 19 feet bgs, and variously analyzed for VOCs, SVOCs, PAHs, inorganics, PCBs, and TPH, as reported in Golder 2011c. The groundwater analytical results indicated that VOCs were detected in concentrations greater than the TMCLs in seven of the borings, that SVOCs were detected in concentrations greater than the TMCLs in one of the borings, that inorganics were detected in concentrations greater than the TMCLs in six of the borings, and that TPH was detected in concentrations greater than the TMCLs in four of the borings. Analytical results for the groundwater TMCL exceedances were provided in Table 4 of Golder 2011c, and analytical results for all groundwater COC detections were provided in Table 8 (Golder 2011c, Appendix A).

Demolition Excavation and Monitoring

During the demolition and removal of the concrete slabs, the oil-water separator SWMU 2-78.6, and utilities in the vicinity of OA 9, additional soil excavation was conducted to remove the TPH-and cobalt-impacted soil in the immediate vicinity of the oil-water separator. The additional soil excavation was extended to the east, west, and south sides of the vault and to the depth of the water table at approximately 11 feet bgs, resulting in an excavation measuring approximately 70 feet long by 40 feet wide, with a volume of approximately 1,200 cubic yards. The excavated soil was properly managed for characterization and disposal. During the demolition and removal of the concrete slabs and oil/water separator, concrete was managed for appropriate handling. The exposed soil was visually observed for signs of staining, and staining was observed on the south wall of the excavation. Soil sample analytical

results for pertinent south wall samples P2IM-SM-221 through P2IM-SM-225 indicated no exceedances of the Industrial Area criteria. No groundwater was encountered in the excavation.

Supplemental Sampling

Soil sampling was conducted to supplement existing data where the excavation occurred at and resulted in the removal of soil where previous RCRA samples had been collected. As such, 13 samples plus one co-located QC sample were collected from the excavation sidewall nearest the original locations of PL2-311A (P2IM-SM-218 through P2IM-SM-220, respectively at 5, 7.5, and 10 feet bgs), PL2-606A (P2IM-SM-214 through P2IM-SM-217, respectively at 1.5, 2.5, 5.2, and 10 feet bgs), SW-39 (P2IM-SM-221 and P2IM-SM-222, respectively at 3.2 and 10.1 feet bgs), PL2-310A (P2IM-SM-228 and P2IM-SM-229, respectively at 7.5 and 10 feet bgs), and SB-04412 (P2IM-SM-224 & P2IM-SM-225, respectively at 5 and 7.5 feet bgs). The supplemental samples near PL2-311A were analyzed for VOCs, SVOCs, PCBs, and TPH; the supplemental samples near PL2-606A were analyzed for VOCs, inorganics, and TPH; the samples near SW-39 were analyzed for VOCs, SVOCs, PAHs, inorganics, PCBs, and TPH; and the samples near PL2-310A and SB-04412 were analyzed for TPH. The analytical results indicated that no COCs were detected in concentrations above the Industrial Area criteria.

Confirmation Sampling

Three confirmation samples, P2IM-SM-223, P2IM-SM-226, and P2IM-SM-227, were initially collected in the excavation to confirm that impacted soil had been removed. Two samples were collected from opposite sidewalls at a depth of approximately 5 feet bgs and one sample (P2IM-SM-227) was collected in the bottom of the excavation. The samples were analyzed for TPH and metals. Additional excavation and sampling were conducted based on the analytical results for P2IM-SM-226, which indicated the detection of TPH-Gasoline Range in a concentration of 340 mg/kg, greater than the Industrial Area criteria of 30 mg/kg for that COC. After the additional excavation was completed, six additional samples, P2IM-SM-226.01 through P2IM-SM-226.06, were collected at depths of 5 to 10 feet bgs and analyzed for TPH. No COCs were detected in concentrations above the Industrial Area criteria in these additional samples.

Summaries of the supplemental/confirmation sampling are presented in Tables 3 and 4, and the analytical data for the sampling is presented in Table 5 of Appendix A.

3.5.4 Old Utility Removals, including OA23.1 & 23.2 (X & Y Storm Lines)

Miscellaneous Utility Removals

Throughout the demolition footprint, excavations were completed to remove existing utilities such as storm lines, sanitary sewer lines, water lines, fire protection lines, electrical lines and communications lines (Figure 6). The excavations to remove the utilities generally ranged in depth from approximately 2 to 5 feet bgs, but deeper excavations of up to approximately 11 feet bgs were required for the removal of the deepest stormwater lines and manholes, particularly in the vicinity of the 2-66 slab and the Southwest Bank. All excavated soil was properly managed for characterization and disposal or reuse.

X & Y Storm Lines (OA 23.1 & 23.2)

Storm lines X and Y were designated as RCRA units OA 23.1 and 23.2 respectively when elevated concentrations of PCBs and metals were detected in catch basin solids in 2005. The storm lines were taken out of service and the drainage capacity of those lines was replaced with a temporary stormwater system and modern treatment vault in 2006. The portions of storm lines X & Y located east of the 2-66 slab were removed in 2007 (Golder 2008). The remaining manholes west of that point were filled with controlled density fill (CDF) and the ends of the remaining storm lines were plugged with CDF to eliminate infiltration of stormwater into the lines and to seal residual pipe contents inside the pipes. Approximately 20 to 30 additional feet of each of the storm lines were removed and the remaining pipes sealed with CDF when the new duct bank was installed in the 2-66 Area in 2010 (Golder 2011a).

During the mass excavation of the south one-third of the stormwater area (Section 3.5.1), storm lines X and Y were removed from the Industrial and Stormwater Areas in the 2-66 Area, and small portions of the storm lines that transected the Habitat Area were also removed (Figure 6). The removed pipes were properly managed for characterization and disposal, and the excavated soil was properly managed for characterization and disposal or reuse. The remaining portions of the storm lines in the Habitat Area will be removed when corrective measure activities associated with the DSOA and the Southwest Bank are implemented.

Historical Sampling

Soil samples were collected historically at more than 700 locations throughout the demolition footprint and groundwater samples were collected historically at more than 500 locations throughout the demolition footprint. Soil and groundwater samples were collected from multiple depths at most of the sampling locations, and variously analyzed for VOCs, SVOCs, PAHs, inorganics, PCBs, and TPH. Planned utility removals and historical sampling locations were shown in Figure 5 of Golder 2011c.

Soil analytical results were compared to the applicable evaluation criteria that were being used at the time as indicated in Table 2 of Golder 2011c. The sampling locations at which soil COC concentrations exceeded the applicable evaluation criteria were indicated on Figure 5 of Golder 2011c. The analytical results for the soil sample exceedances were presented in Table 3 of Golder 2011c, and analytical results for all soil samples are presented in Table 6 of Appendix A in this report.

Analytical data for the groundwater samples were compared to the groundwater TMCLs. The analytical results for the groundwater sample COC exceedances of the TMCLs were presented in Table 4 of Golder 2011c, and analytical results for all COC detections in the groundwater samples were presented in Table 8 (Golder 2011c, Appendix A).

Excavation and Monitoring

Utility removals were conducted during 2011 and 2012. The utilities located in the Stormwater Area were removed during the mass excavation of the south one-third of the Stormwater Area when the soil in that area was excavated to a depth of 11 feet bgs (Section 3.5.1). Inland of the Stormwater Area, excavations to remove utilities in the Industrial Area were generally 2 to 5 feet deep, with some deeper excavations required for the removal of storm lines and manholes. Remaining utilities located in the Habitat Area will be removed when DSOA work is implemented in approximately 2013.

Excavated soils were visually observed for signs of staining, and a PID was used as needed to monitor the soils for VOCs. Utility conduits, duct banks, pipes, and contents were properly managed for characterization and disposal. The excavated soil was properly managed for characterization and disposal or reuse as appropriate.

Soil Sampling

No supplemental or confirmation soil sampling was planned or conducted when utilities were removed.

3.5.5 New Utilities & Stormwater System Installations – Entire Demolition Area

Throughout the demolition footprint, new utilities, including the new stormwater collection and treatment system discussed in Section 6.0, water lines for irrigation or fire protection, and electrical lines were installed during 2012 (Figure 8). Excavations to install the new utilities generally ranged in depth from approximately 3 to 5 feet bgs, but deeper excavations of up to approximately 9 feet bgs were required for the installation of stormwater treatment vaults, lines, manholes, and bio-swales.

Historical Sampling

Soil samples were collected historically at more than 700 locations throughout the demolition footprint and groundwater samples were collected historically at more than 500 locations throughout the demolition footprint. Soil and groundwater samples were collected from multiple depths at most of the sampling locations, and variously analyzed for VOCs, SVOCs, PAHs, inorganics, PCBs, and TPH. The planned utility installations and historical sampling locations were shown in Figure 6 of Golder 2011c, and the locations of new utilities actually installed are shown in Figure 8 of this report.

Soil analytical results were compared to the applicable evaluation criteria that were being used at the time as indicated in Table 2 of Golder 2011c. The sampling locations at which soil COC concentrations exceeded the applicable evaluation criteria were indicated in Figure 6 of Golder 2011c. The analytical results for the soil samples with exceedances of the applicable criteria were presented in Table 3 of Golder 2011c, and analytical results for all soil samples are presented in Table 6 of Appendix A in this report.

Analytical data for the groundwater samples were compared to the groundwater TMCLs. The analytical results for the groundwater sample COC exceedances of the TMCLs were presented in Table 4 of Golder 2011c, and analytical results for all COC detections in the groundwater samples were presented in Table 8 (Golder 2011c, Appendix A).

Excavation and Monitoring

The new utility installations were completed during 2012. Inland of the Stormwater Area, excavations to install new utilities in the Industrial Area were generally be 3 to 5 feet deep, with some deeper excavations required for the installation of new storm lines and manholes. In the Stormwater Area, excavations for the installation of the new stormwater system extended as much as 9 feet bgs. As a result of the mass excavations that were completed to a depth of 11 feet bgs in Stormwater Area (Section 3.5.1), and the placement of clean backfill in those excavations, the excavations for the installation of most of the new utilities and stormwater system pipes, manholes, bio-swales, and vaults in the Stormwater Area were completed in clean backfill materials. Utilities and new stormwater system outfalls located in the Habitat Area will be installed when DSOA and Southwest Bank work is implemented. Pending the installation of the new outfalls for the stormwater system, the stormwater is being treated by the new system and pumped to the existing storm line Z for discharge.

During utility and stormwater system installations, excavated soils were visually observed for signs of staining, and a PID was used as needed to monitor the soils for VOCs. The excavated soil was properly managed for characterization and disposal or reuse as appropriate.

Soil Sampling

No supplemental or confirmation soil sampling was planned or conducted when the new utilities were installed.

3.5.6 Boring 2-60-DP-17 near Building 2-44

Boring 2-60-DP-17 was completed in the Industrial Area during 2005 as part of the 2-60s Area Data Gap Investigation. The boring was located just outside the south wall of Building 2-44, and north of the 2-63 Slab (Figure 4, Golder 2011c), and was not located within a RCRA unit. Soil and groundwater samples were collected in the boring.

Historical Sampling

Soil samples were collected in 2-60-DP-17 at depths of 1, 6.5, and 10.5 feet bgs. The samples were variously analyzed for VOCs, metals, PCBs, and TPH. At the 1-foot depth, TPH (gasoline range) was detected in a concentration of 34 mg/kg, exceeding the Industrial Area evaluation criteria of 30 mg/kg for that constituent. The analytical result for the soil sample exceedance of the Industrial Area evaluation criteria was presented in Table 3 of Golder 2011c, and analytical results for all soil samples are presented in Table 6 of Appendix A of this report.

Groundwater samples were collected in 2-60-DP-17 at a depth of 13 feet bgs and analyzed for VOCs, metals, and PCBs. Analytical data for the groundwater samples were compared to the groundwater TMCLs. TCE was detected in a concentration of 0.8 µg/L, slightly greater than the groundwater TMCL of 0.51 µg/L. The analytical results for the groundwater sample COC exceedance of the TMCL was presented in Table 4 of Golder 2011c, and analytical results for all COC detections in the groundwater samples were presented in Table 8 (Golder 2011c, Appendix A).

Excavation and Monitoring

A small excavation measuring approximately 10 feet square by 5 to 6 feet deep was completed at the location of 2-60-DP-17 to remove the soil containing the 34 mg/kg concentration of gasoline-range TPH. Approximately 20 cubic yards of soil were removed. The excavated soil was visually observed for signs of staining, and a PID was used as needed to monitor the soils for VOCs. The excavated soil was properly managed for characterization and disposal.

Supplemental Sampling

Soil sampling was conducted to supplement existing data where the excavation occurred at and resulted in the removal of soil where a previous RCRA sample had been collected. One sample, P2IM-SM-182 was collected from the excavation sidewall nearest the original location of 2-60-DP-17 at 1 foot bgs. The supplemental sample was analyzed for VOCs, metals, PCBs and TPH (gasoline range). No COCs were detected in concentrations above the Industrial Area criteria. The supplemental sample information is presented in Tables 3 and 4, and the soil analytical data is presented in Table 5 of Appendix A.

Confirmation Sampling

Three confirmation samples were collected in the excavation to confirm that impacted soil had been removed. Two samples, P2IM-SM-181 and P2IM-SM-183, were collected from opposite sidewalls at a depth of 2.5 feet bgs and one sample, P2IM-SM-180, was collected in the bottom of the excavation at a depth of 5 feet bgs. The samples were analyzed for TPH – gasoline range. No TPH – gasoline range was detected in the confirmation samples. The confirmation sample information is presented in Tables 3 and 4, and the soil analytical data is presented in Table 5 of Appendix A.

3.5.7 Boring DP-4107 at SWMU 2-41.31

Boring DP-4107 was completed in the Industrial Area during 2002 as part of the parcel investigation. The boring was located in the northern portion of RCRA unit SWMU 2-41.31, Machine Pits. SWMU 2-41.31 is located in and occupies a large portion of Building 2-41. The RCRA unit consisted of more than 35 machine pits and various sumps. All machine pits and sumps were historically decommissioned. The pits were grouped into a SWMU due to their common potential for impacts from lubricating or waste oils dripped or released from cutting machines and presses. The COCs at this unit were metals, VOCs, SVOCs, diesel- through motor oil- range petroleum hydrocarbons and PCBs (Weston 2000a). The RCRA unit description and the historical soil and groundwater sampling performed in the RCRA unit were detailed in Golder 2010c. Boring DP-4107 was the focus of an excavation completed at that location during redevelopment activities.

Historical Soil Sampling at DP-4107

Soil samples were collected in DP-4107 at depths of 5 to 6, 11 to 12, and 14 to 15 feet bgs. The samples were analyzed for VOCs, PAHs, metals, PCBs, and TPH. The analytical results indicated that TPH (diesel range) was detected in the samples from 5 to 6 and 11 to 12 feet bgs in respective concentrations of 4,800 and 2,600 mg/kg, and that TPH (motor oil range) was detected in the samples from 5 to 6 and 11 to 12 feet bgs in respective concentrations of 14,000 and 8,700 mg/kg. The TPH concentrations exceeded the Industrial Area evaluation criteria of 2,000 mg/kg for both of the COCs. The analytical

results for the soil sample exceedances of the Industrial Area evaluation criteria were presented in Table 3 of Golder 2011c, and analytical results for all soil sampling is presented in Table 6 of Appendix A in this report.

Groundwater samples were collected in DP-4107 at depths of 11 to 15 feet bgs and analyzed for VOCs, SVOCs, PAHs, metals, PCBs, and TPH. The analytical results were compared to the groundwater TMCLs, and indicated that the arsenic and TPH (motor oil range) concentrations exceeded the TMCLs. The analytical results for the groundwater sample COC exceedances of the TMCLs were presented in Table 4 of Golder 2011c, and analytical results for all COC detections in the groundwater samples were presented in Table 8 (Golder 2011c, Appendix A).

Excavation and Monitoring

A soil excavation was conducted at the location of DP-4107 (Figures 4 and 5) to remove the soil containing the TPH concentrations that exceeded the Industrial Area criteria. The excavation was initially 15 feet square by 12 feet deep. During the excavation, the exposed soil was visually observed for signs of staining and a PID was used to monitor the soil for VOCs. The excavation was expanded to 45 feet long by 30 feet wide by 12 feet deep based on the results of field monitoring and supplemental sample analytical results. A volume of approximately 600 cubic yards of soil was removed. The excavated soil was properly managed for characterization and disposal.

Supplemental Sampling

Soil sampling was conducted to supplement existing data where the excavation occurred at and resulted in the removal of soil where previous RCRA samples had been collected. As such, sample P2IM-SM-131 was collected from the excavation's west sidewall nearest the original location of DP-4107 at 6 feet bgs, and sample P2IM-SM-130 was collected from the bottom of the west sidewall of the excavation at 12 feet bgs (Figure 5). The supplemental samples were analyzed for VOCs, PAHs, metals, PCBs and TPH. The analytical results indicated the detection of TPH – Motor Oil Range in a concentration of 36,000 mg/kg and TPH – Diesel Range in a concentration of 8,100 mg/kg in P2IM-SM-131, and the detection of TPH – Motor Oil Range in a concentration of 18,000 mg/kg in P2IM-SM-130. These COC concentrations exceeded the Industrial Area criteria of 2,000 mg/kg for both COCs.

The excavation was therefore expanded as indicated above, and additional supplemental samples P2IM-SM-131.01 (6 feet bgs) and P2IM-SM-130.01 (12 feet bgs) were collected from the west sidewall of the expanded excavation (Figure 5). The samples were analyzed for VOCs, metals, and TPH, and the analytical results indicated no exceedances of the Industrial Area criteria. The supplemental sample

information is presented in Tables 3 and 4, and the soil analytical data is presented in Table 5 of Appendix A.

Confirmation Sampling

Two confirmation samples, P2IM-SM-132 and P2IM-SM-133 were collected in the initial excavation sidewalls at a depth of 6 feet bgs (Figure 5), and analyzed for TPH. Diesel and motor oil range TPH were detected in both samples in concentrations greater than the Industrial Area criteria for those COCs.

After the excavation was expanded as indicated above, additional confirmation samples P2IM-SM-132.01 and P2IM-SM-133.01 were collected at a depth of 6 feet bgs from the south and east sidewalls respectively. The samples were analyzed for TPH, and the analytical results indicated no exceedances of the Industrial Area criteria. The confirmation sample information is presented in Tables 3 and 4, and the soil analytical data is presented in Table 6 of Appendix A.

3.5.8 2-31 Foundation for New Wall

The east portion of Building 2-31 remains in use after the 2-40s buildings and the west portion of Building 2-31 were demolished. The demolition of buildings adjacent to the remaining portion of Building 2-31 left the west and south faces of that building exposed to the weather. As such, a new footing and weatherproof wall were constructed on the west and south sides of the remaining portion of Building 2-31 (Figures 4 and 5). The footing construction required the removal of 6-inch thick by 6-foot wide concrete floor slabs at the location of the new wall. Soil excavations were completed to a depth of approximately 2 feet bgs to allow the installation of the footings for the new wall.

Historical Soil Sampling

Twenty-two historical borings were located within a 25-foot radius of the location of the new footing and wall that were constructed at Building 2-31 (Figure 4, Golder 2011c). Soil samples were collected in 20 of the borings, and groundwater samples were collected in 18 of the borings.

Soil samples from the borings were collected at depths ranging from 1 to 18 feet bgs, and variously analyzed for VOCs, SVOCs, PAHs, inorganics, PCBs and TPH. Analytical data for the soil samples were compared to the applicable evaluation criteria that were being used for the Industrial Area in late 2011. Vinyl chloride was detected in 1993 in boring PL2-501A at a depth of 8 feet bgs in a concentration greater than the Industrial Area criteria that were being used at the time for that constituent. PL2-501A is located on the east side of the demolition/redevelopment portion of Building 2-31, and on the east side of the footing excavation. The analytical results for the soil sample COC concentration exceedance of the Industrial Area criteria were presented in Table 3 of Golder 2011c. Analytical results for all soil sampling

compared to current screening criteria are presented in Table 6 of Appendix A in this report. Soil analytical data for PL2-501A, when compared to current Industrial Area criteria, do not exceed the criteria for any COCs.

Groundwater samples from the borings were collected at depths ranging from 10 to 45 feet bgs, and variously analyzed for VOCs, SVOCs, PAHs, inorganics, PCBs, and TPH. Analytical data for the groundwater samples were compared to the groundwater TMCLs. COCs were variously detected in concentrations greater than the TMCLs in 15 of the borings. The analytical results for the exceedances were presented in Table 4 of Golder 2011c, and analytical results for all COC detections in the groundwater samples were presented in Table 8 (Golder 2011c, Appendix A).

Excavation and Monitoring

The 6-inch thick floor slab in the vicinity of the new wall was demolished and removed, and soil was excavated to a depth of approximately 2 feet bgs to enable the installation of footings for the new wall. Groundwater was not encountered in the excavations for the 2-foot deep footings.

Additional excavation was initially planned at the location of boring PL2-501A (Figure 4, Golder 2011c) where vinyl chloride was detected at a depth of 8 feet bgs in a concentration greater than the Industrial Area evaluation criteria that were being used in late 2011. The additional soil excavation was to measure approximately 10 feet square by 11 feet deep. However, access to the location was not possible during the demolition and redevelopment phases of the project, and the analytical soil data for PL2-501A, when compared to the latest industrial Area criteria, indicate no exceedances of the criteria for any COCs. Therefore, no additional excavation was completed at the location of PL2-501A.

During the demolition and removal of the concrete slabs, concrete was managed for appropriate characterization and handling, and the soil excavated for the footings for the new wall was properly managed for characterization and disposal or reuse. During the demolition of the slabs and the excavations for the footings, the exposed soil was visually observed for signs of staining. Groundwater was not encountered.

Sampling

No supplemental or confirmation soil sampling was conducted during the excavation of footings for the new wall.

3.5.9 Boring SB-04107 at AOC 2-41.32

Boring SB-04107 was completed in the Industrial Area during 1994 as part of the parcel investigation. The boring was located on the eastern edge of RCRA unit AOC 2-41.32 (Deactivated Paint Booths and Sump). AOC 2-41.32 is located in the Industrial Area in the northeast corner of Building 2-41 and consisted of paint booths for painting metal parts, and a sump measuring 10 feet long, 5 feet wide and 5 feet deep. The paint booths and sump operated from 1956 to the early 1990s. A recirculating water curtain at the rear of the paint booth and steel containment pans captured the over-spray; water was then re-circulated from the sump. Water containing paint residue was disposed of periodically (Weston 2003).

Historical Sampling

Six borings are located within a 25-foot radius of AOC 2-41.32 (Figure 4). Soil samples were collected in all six borings, and groundwater samples were collected in four of the borings.

Eighteen soil samples were collected in the six borings at depths ranging from 1 to 15 feet bgs. Fifteen of the samples were analyzed for VOCs and inorganics, and the other three samples were analyzed for PCBs and TPH. Vinyl chloride was detected at a depth of 8 feet bgs in SB-04107 in a concentration greater than the Industrial Area evaluation criteria that were being used in late 2011. The analytical results for the soil sample COC concentration exceedance of the previous Industrial Area criteria was presented in Table 3 of Golder 2011c, and analytical results for all soil samples compared to current screening criteria are presented in Table 6 of Appendix A in this report. The soil analytical data for SB-04107, when compared to current criteria, indicate no exceedance of the criteria for any COCs.

Groundwater samples were collected in four of the borings at depths ranging from 10 to 15 feet bgs. The samples were variously analyzed for VOCs, SVOCs, PAHs, inorganics, PCBs, and TPH. COCs in three of the samples were variously detected in concentrations greater than the groundwater screening levels, including aluminum, arsenic, barium, cobalt, copper, cyanide, mercury, nickel, and vanadium. The analytical results for the exceedances were presented in Table 4 of Golder 2011c, and analytical results for all COC detections in the groundwater samples were presented in Table 8 (Golder 2011c, Appendix A).

Excavation and Monitoring

A soil excavation was conducted at the location of SB-04107 (Figures 4 and 5) to remove the soil containing the vinyl chloride concentration that exceeded the Industrial Area evaluation criteria that were being used in late 2011. The excavation was completed before the use of the new screening criteria was implemented. The soil excavation centered on SB-04107, was approximately 12 feet square by 11 feet deep, and had a volume of approximately 60 cubic yards. The excavated soil was properly managed for

characterization and disposal. During the excavation, the exposed soil was visually observed for signs of staining and a PID was used to monitor the soil for VOCs.

Supplemental Sampling

Soil sampling was conducted to supplement existing data where the excavation occurred at and resulted in the removal of soil where previous RCRA samples had been collected. Two samples, P2IM-SM-190 and P2IM-SM-191, were collected at 1.5 feet and 8 feet bgs from the excavation south sidewall nearest the original location of SB-04107. The samples were analyzed for VOCs and metals. The analytical results indicated no COC concentration exceedances of the current Industrial Area criteria. The supplemental sample information is presented in Tables 3 and 4, and the soil analytical data is presented in Table 5 of Appendix A.

Confirmation Sampling

Three confirmation samples were collected in the excavation. Two samples, P2IM-SM-192 and P2IM-SM-193 were collected from opposite sidewalls at a depth of 6 feet bgs, and one sample, P2IM-SM-189 was collected from the bottom of the excavation. The samples were analyzed for VOCs, and no COCs were detected in concentrations exceeding the current Industrial Area criteria. The confirmation sample information is presented in Tables 3 and 4, and the soil analytical data is presented in Table 5 of Appendix A.

3.5.10 Boring SB-04105 at SWMU 2-41.33 (Deactivated/Anodic Tank/Line)

Boring SB-04105 was completed in the Industrial Area during 1993, and was located in RCRA unit SWMU 2-41.33, Deactivated/Anodic Tank/Line. The Anodic Tank Line was located in the north portion of Building 2-41. Operation began in 1941, and the Tank Line was decommissioned, decontaminated and disassembled in 1993. The unit consisted of a series of tanks ranging in capacity from 10 to 1,300 gallons. The tanks were used for plating, pickling and anodizing. The tanks were contained in a secondary containment structure, the floor of which was 6 feet below the factory floor surface. Two concrete sumps were located in the bottom of the secondary containment. The floor of the concrete containment vault rested on approximately 4 feet of sand. A silt lens below the sand measured 2 to 4 feet thick. The sump floor rested on the silt lens. Potential constituents of concern associated with the operation of the unit were VOCs, SVOCs, and inorganics, including chromium and cyanide.

Soil samples were collected from seven soil borings including SB-04105, before IMs were conducted between December 1993 and December 1997. These soil samples were analyzed for VOCs, SVOCs, and inorganics including chromium and cyanide. VOCs and SVOCs were not detected at concentrations reported in the RFI as requiring further consideration. Inorganics were detected at concentrations

reported in the RFI as requiring further consideration, which confirmed a release from the southwest sump. This resulted in the completion of IMs, which were detailed in Weston (1998).

The IMs consisted of the removal of the concrete floor of the secondary containment and the excavation of 200 cubic yards of soil from beneath the structures. Soil was excavated to a level at or below the water table. Ten soil borings were advanced and sampling was conducted during the course of these operations.

Historical Sampling

Thirty-seven historical borings are located within a 25-foot radius of SWMU 2-41.33 (Figure 4, Golder 2011c). Soil samples were collected in 31 of the borings and groundwater samples were collected in 14 of the borings.

Fifty-five soil samples were collected in 31 borings at depths ranging from 1 to 15.5 feet bgs. The samples were variously analyzed for VOCs, SVOCs, PAHs, inorganics, PCBs, and TPH. With the exception of the soil samples from boring SB-04105, none of the tested COCs in any of the samples from the other 30 borings had concentrations that exceeded the Industrial Area criteria.

Soil samples were collected at depths of 10.5 and 12 feet bgs in boring SB-04105, and analyzed for VOCs and inorganics. Hexavalent chromium was detected in the sample from 10.5 feet bgs in a concentration of 68.8 mg/kg, greater than the Industrial Area criteria of 28 mg/kg, and lead was detected in the sample from 12 feet bgs in a concentration of 2,150 mg/kg, greater than the Industrial Area criteria of 1,000 mg/kg. The analytical results for the soil sample COC concentration exceedances of the Industrial Area criteria were presented in Table 3 of Golder 2011c, and analytical results for all soil samples are presented in Table 6 of Appendix A in this report.

No groundwater samples were collected in boring SB-04105, but groundwater samples were collected in 14 other borings in or near the RCRA unit at depths ranging from 8 to 27 feet bgs. The samples were variously analyzed for VOCs, SVOCs, PAHs, inorganics, and PCBs. COCs variously detected in concentrations greater than the groundwater TMCLs included VOCs, inorganics, and PCBs. The analytical results for the groundwater TMCL exceedances were included in Table 4 of Golder 2011c, and analytical results for all COC detections in the groundwater samples were presented in Table 8 (Golder 2011c, Appendix A).

Excavation and Monitoring

A soil excavation was completed at the location of SB-04105 (Figures 4 and 5) to remove the soil containing the hexavalent chromium and lead concentrations that exceeded the Industrial Area evaluation criteria. The soil excavation was centered on boring SB-04105, and was initially 15 feet square by approximately 12 feet deep. Based upon the results of supplemental and confirmation sampling, the excavation was ultimately expanded to approximately 40 feet long by 25 feet wide by 12 feet deep, with a volume of approximately 400 cubic yards. The excavated soil was properly managed for characterization and disposal. During the excavation, the exposed soil was visually observed for signs of staining and a PID was used to monitor the soil for VOCs.

Supplemental Sampling

Soil sampling was conducted to supplement existing data where the excavation occurred at and resulted in the removal of soil where previous RCRA samples had been collected. Two samples, P2IM-SM-121 (12 feet bgs) and P2IM-SM-122 (10.5 feet bgs) were collected from the south sidewall of the initial excavation. The samples were analyzed for VOCs and inorganics, including hexavalent chromium and cyanide. TCE was detected in P2IM-SM-121 in a concentration of 290 µg/kg, greater than the 270 µg/kg Industrial Area criteria that was being used at the time of the excavation. Hexavalent chromium was detected in P2IM-SM-122 in a concentration of 28.5 mg/kg, greater than the Industrial Area criteria of 28 mg/kg, and TCE was detected in a concentration of 3,100 µg/kg, greater than the Industrial Area criteria of 270 µg/kg that was being used at the time for TCE. The excavation was therefore expanded southward approximately 12 feet, and additional sampling conducted.

Two samples, P2IM-SM-121.01 (12 feet bgs) and P2IM-SM-122.01 (10.5 feet bgs) were collected from the south sidewall of the expanded excavation, and analyzed for VOCs and hexavalent chromium. The analytical results indicated that TCE was detected in P2IM-SM-122.01 in a concentration of 2,800 µg/kg, above the Industrial Area criteria of 270 µg/kg that was being used at the time for TCE. The excavation was further expanded approximately 12 feet southward and 12 feet eastward.

Samples P2IM-SM-121.02 and P2IM-SM-122.02 were then collected from the south sidewall of the 2nd excavation expansion, and analyzed for VOCs. No COCs were detected in a concentration above the Industrial Area criteria. The supplemental sample information is presented in Tables 3 and 4, and the soil analytical data is presented in Table 5 of Appendix A.

Confirmation Sampling

Two confirmation samples, P2IM-SM-119 and P2IM-SM-120, were collected from opposite sidewalls of the initial excavation at a depth of 6 feet bgs, and analyzed for inorganics, including hexavalent

chromium. Analytical results indicated the detection of no COCs in concentrations above the Industrial Area criteria.

When the excavation was expanded southward for the first time, samples P2IM-SM-119.01 and P2IM-SM-120.01 were collected from opposite sidewalls of the excavation at a depth of 6 feet bgs. The samples were analyzed for VOCs and hexavalent chromium. The analytical results indicated the detection of TCE at P2IM-SM-119.01 in a concentration of 570 µg/kg, and at P2IM-SM-120.01 in a concentration of 1,900 µg/kg, greater than the Industrial Area criteria of 270 µg/kg that was being used at that time for TCE.

When the excavation was expanded a second time, no additional sample was collected to replace P2IM-SM-119.01, because after some caving, the soil on that side of the excavation abutted the fill material that was placed when the tunnel was backfilled. A sample, P2IM-SM-120.02 was collected from the east sidewall of the expanded excavation at a depth of 6 feet bgs, and analyzed for VOCs. No COCs were detected in concentrations greater than the Industrial Area criteria. The confirmation sample information is presented in Tables 3 and 4, and the soil analytical data is presented in Table 5 of Appendix A.

3.5.11 Boring 2-40-DP-013 at Sump SPL-044-029

Boring 2-40-DP-013 was completed during 2008 in the Industrial Area at sump SPL-044-029, a press pit located along the north wall in the central portion of Building 2-44 (Figure 4, Golder 2011c). The press pit measured 12 feet long by 6.3 feet wide by 10 inches deep. The pit contained oil and debris. Based on the association of this sump with a press operation, the COCs for this sump consisted of PCBs and diesel through motor oil range petroleum hydrocarbons.

Historical Sampling

A review of analytical data in the vicinity of SPL-044-029 indicated that three borings are located within a 25-foot radius of the sump (Figure 4, Golder 2011c). Soil samples were collected in two of the borings and groundwater samples were collected in all three borings.

Three soil samples were collected in boring 2-40-DP-013 at depths of 1, 5, and 10 feet bgs, and analyzed for VOCs, SVOCs, PCBs, inorganics, and TPH. Three soil samples were collected in boring DP-4419 at depths of 5, 10 and 15 feet bgs, and analyzed for PCBs and TPH. The analytical results indicated that no COCs were detected in concentrations greater than the Industrial Area criteria in any of the soil samples. In boring 2-40-DP-013, PCBs, metals, and TPH were detected, but in concentrations less than the

Industrial Area criteria. Analytical results for all soil samples are provided in Table 6 of Appendix A of this report.

One groundwater sample was collected in each of two borings and two groundwater samples were collected in the third boring. One groundwater sample was collected in boring 2-40-DP-013 at a depth of 14 to 18 feet bgs, and analyzed for VOCs, SVOCs, PCBs, inorganics, and TPH. One groundwater sample was collected in DP-4419 at a depth of 13 to 17 feet bgs, and two groundwater samples were collected in GP-04405 at depths of 13 and 17 feet bgs. The samples from both DP-4419 and GP-04405 were analyzed for PCBs and TPH. The analytical results indicated that iron, PCBs and bis(2-ethylhexyl)phthalate were detected in boring 2-40-DP-013 at concentrations greater than the groundwater TMCLs. The analytical results for the exceedances were presented in Table 4 of Golder 2011c, and analytical results for all COC detections in the groundwater samples were presented in Table 8 (Golder 2011c, Appendix A).

Excavation and Monitoring

Although metals and PCBs were not detected in the soil at boring 2-40-DP-013 in concentrations greater than the Industrial Area criteria, groundwater sampling in the area indicated metals and PCB contamination approximately centered on boring 2-40-DP-013. As such, a soil excavation measuring approximately 15 feet long by 10 feet wide by 11 feet deep, with a volume of approximately 60 cubic yards, was completed at that location to remove soil that was a potential ongoing source of metals and PCB impacts to the groundwater. Soil was visually observed for signs of staining, and a PID was used to monitor the soil for VOCs as needed. The excavated soil was properly managed for characterization and disposal. Groundwater was not encountered.

Supplemental Sampling

Soil sampling was conducted to supplement existing data where the excavation occurred at and resulted in the removal of soil where previous RCRA samples had been collected. Three samples, P2IM-SM-019 to P2IM-SM-021 were collected from the excavation sidewall nearest the original location of 2-40-DP-013, at 0 to 1 foot bgs, 4 to 5 feet bgs, and 9 to 10 feet bgs respectively. The supplemental samples were analyzed for VOCs, SVOCs, PAHs, metals, PCBs and TPH. The analytical results indicated that no COCs were detected in concentrations greater than the Industrial Area criteria. The supplemental sample information is presented in Tables 3 and 4, and the soil analytical data is presented in Table 5 of Appendix A.

Confirmation Sampling

No confirmation sampling was conducted at this excavation because historical soil analytical data did not indicate COC concentrations in excess of the Industrial Area criteria.

3.5.12 Boring 2-60-DP-25 at the 2-66 Slab

Boring 2-60-DP-25 was completed during 2005 in the Industrial Area near the northeast corner of the 2-66 slab. Soil and groundwater samples were collected, and the groundwater analytical data indicated the exceedance of groundwater TMCLs for VOCs and metals. An excavation was therefore conducted at the location of 2-60-DP-25 to remove low level metals- and TCE-impacted soil that may have potentially been an ongoing source of VOCs and metals to the groundwater.

Historical Sampling

Three soil samples were collected in boring 2-60-DP-25 at depths of 1, 5, and 10 feet bgs, and analyzed for VOCs and metals. The soil analytical results indicated that no COCs were detected in concentrations greater than the Industrial Area criteria in any of the soil samples. However, metals and TCE were detected in all three samples in concentrations less than the Industrial Area criteria. Analytical results for all soil samples are provided in Table 6 of Appendix A in this report.

Two groundwater samples were collected in 2-60-DP-25 at depths of 12 feet bgs and 42 feet bgs. The samples were analyzed for VOCs and metals. The groundwater analytical results indicated that several metals, tetrachloroethene, and TCE were detected in the 12-foot bgs sample in concentrations greater than the groundwater TMCLs, and that iron was detected in the 42-foot bgs sample in a concentration greater than the groundwater TMCL for that constituent. The analytical results for the TMCL exceedances were presented in Table 4 of Golder 2011c, and analytical results for all COC detections in the groundwater samples were presented in Table 8 (Golder 2011c, Appendix A).

Excavation and Monitoring

Although metals and TCE were not detected in the soil at boring 2-60-DP-25 in concentrations greater than the Industrial Area criteria, groundwater sampling in the area indicated metals and TCE contamination, approximately centered on boring 2-60-DP-25. As such, a soil excavation initially measuring 10 feet square by 11 feet deep, and later expanded to approximately 20 feet long by 10 feet wide by 11 feet deep, was completed at that location to remove approximately 80 cubic yards of soil that was a potential ongoing source of metals and TCE impacts to the groundwater. The soil was visually observed for signs of staining, and a PID was used to monitor the soil for VOCs as needed. The

excavated soil was properly managed for characterization and disposal or reuse. Groundwater was not encountered in the excavation.

Supplemental Sampling

Soil sampling was conducted to supplement existing data where the excavation occurred at and resulted in the removal of soil where previous RCRA samples had been collected. As such, three samples, P2IM-SM-204 to P2IM-SM-206 were collected from the excavation sidewall nearest the original location of 2-60-DP-25, at depths of 10 feet bgs, 5 feet bgs, and 1 foot bgs respectively. The supplemental samples were analyzed for VOCs and metals. The analytical results indicated that TCE was detected at 5 feet bgs in sample P2IM-SM-205 in a concentration of 340 µg/kg, greater than the Industrial Area criteria of 270 µg/kg that was being used at the time of the excavation. The supplemental sample information is presented in Tables 3 and 4, and the soil analytical data is presented in Table 5 of Appendix A.

Confirmation Sampling

As a result of the TCE exceedance detected in sample P2IM-SM-205, the excavation was expanded approximately 10 feet eastward, and confirmation samples P2IM-SM-205.01 and P2IM-SM-205.02 were collected from the east side of the excavation at depths of 10 feet and 5 feet bgs respectively. The samples were analyzed for VOCs. The analytical results indicated that no COCs were detected in concentrations greater than the Industrial Area criteria. The confirmation sample information is presented in Tables 3 and 4, and the soil analytical data is presented in Table 5 of Appendix A.

3.5.13 Western Portion of Building 2-31

Historical groundwater and soil sampling in the west portion of Building 2-31 indicated the presence of TCE and other chlorinated VOCs. The chlorinated VOC contamination may likely have been associated with the historical location of a small diameter pipeline that supplied TCE to degreasers in the area. A relatively large excavation was completed in the vicinity of the historical supply line to remove TCE-impacted soil that may potentially have been contributing to the groundwater contamination in the western portion of Building 2-31 (Figure 4, Golder 2011c). Additionally, three separate smaller excavations were also completed in the western portion of Building 2-31 to address vinyl chloride or metals in the soil.

Historical Sampling

A review of analytical data indicated that 26 borings had been completed in the western portion of Building 2-31 (Figure 4, Golder 2011c). Soil samples were collected in 25 of the borings and groundwater samples were collected in 13 of the borings.

Soil samples from 25 borings were collected at depths ranging from 1 to 15 feet bgs, and variously analyzed for VOCs, SVOCs, PAHs, inorganics, PCBs and TPH. Analytical data for the soil samples were compared to the applicable evaluation criteria for the Industrial Area. Vinyl chloride was detected at a depth of approximately 10 feet bgs in four of the borings (2-31-DP-07, 2-31-DP-34, 2-31-DP-36, and DP-3101) in concentrations that exceeded the Industrial Area criteria of 4.1 µg/kg that was being used at the time of the excavations. The analytical results for soil samples from all nine other borings that were analyzed for VOCs indicated that TCE, vinyl chloride, or cis-1,2-dichloroethene were detected in the soil in concentrations less than the Industrial Area criteria. The analytical results for the soil sample COC concentration exceedances of the Industrial Area criteria were presented in Table 3 of Golder 2011c, and analytical results for all soil samples are presented in Table 6 of Appendix A of this report.

Groundwater samples from the 13 borings were collected at depths ranging from 8 to 72 feet bgs, and variously analyzed for VOCs, SVOCs, PAHs, inorganics, PCBs and TPH. Analytical data for the groundwater samples were compared to the groundwater TMCLs. VOCs and metals were variously detected in concentrations greater than the TMCLs in all 13 of the borings. Of particular concern were the TCE, vinyl chloride and/or cis-1,2-dichloroethene concentrations that exceeded the groundwater TMCLs in borings 2-31-DP-07, 2-31-DP-38, and 2-31-DP-40. The analytical results for the exceedances were presented in Table 4 of Golder 2011c, and analytical results for all COC detections in the groundwater samples were presented in Table 8 (Golder 2011c, Appendix A).

Large Excavation of Soil Potentially Affecting Groundwater Quality

Groundwater COC maps contained in the 2-31 Area data gap investigation report (EPI and Golder 2010) and the location of the historical TCE supply line were used to delineate the likely extents of the large excavation planned in the west portion of Building 2-31 (Figure 4, Golder 2011c). The excavation was intended to remove soil that was a potential ongoing source of chlorinated VOC impacts to the groundwater. The initial excavation was approximately 165 feet long by 25 to 50 feet wide by 11 feet deep, but was expanded to approximately 190 feet long by 75 feet wide by 11 feet deep (Figures 4 and 5) based on the results of field monitoring and supplemental and confirmation sampling that were conducted as the excavation was being advanced. Approximately 4.500 cubic yards of soil were removed. The soil was visually observed for signs of staining, and a PID was used to monitor the soil for VOCs as needed. Groundwater was encountered in the bottom of the excavation, but dewatering was not required to complete the excavation. All soil was properly managed for characterization and disposal.

After excavating the soil to 11 feet bgs, a commercially available substrate product, Regenesis HRC, was applied to the excavation groundwater surface, and blended with underlying soil between 11 feet and 13 feet bgs, before the excavation was backfilled with clean soil. The substrate application was

performed as an opportunity afforded by the redevelopment excavation to achieve favorable geochemical conditions and enhance bacterial populations in anticipation of comprehensive remedies performed as part of corrective measures implementation.

Smaller Excavations

Three smaller excavations were initially planned in the west portion of Building 2-31 (Figure 4, Golder 2011c) at the locations of borings where vinyl chloride concentrations in the soil exceeded the Industrial Area evaluation criteria. The excavations were to measure 10 feet square by 11 feet deep and were to be completed at the locations of 2-31-DP-34, 2-31-DP-36, and DP-3101. As a result of the supplemental and confirmation sampling conducted while completing the large excavation described above and the excavations at 2-31-DP-34 and 2-31-DP-36, the excavations were expanded and merged into the large excavation.

A small excavation was completed on the north side of the 2-31 Area as planned, at the location of DP-3101 (Figures 4 and 5). The excavation measured approximately 15 feet square by 11 feet deep. Approximately 80 cubic yards of soil were removed at this location, and the soil was properly managed for characterization and disposal.

Two additional excavations were completed on the north side of the 2-31 Area at the locations of borings NS-02-31 and NS-03-31 (Figures 4 and 5) to address metals-impacted soils. The excavation at NS-02-31 measured approximately 5 feet square by 5 feet deep, and had a volume of approximately 5 cubic yards. The excavation at NS-03-31 measured approximately 10 feet long by 5 feet wide by 6 feet deep, and had an approximate volume of 10 cubic yards. The soil was properly managed for characterization and disposal.

Supplemental Sampling

Soil sampling was conducted to supplement existing data where the excavations occurred at and resulted in the removal of soil where previous RCRA samples had been collected. In the large excavation, three samples each were initially collected from the excavation sidewall nearest the original locations of 2-31-DP-07, 2-31-DP-38, and 2-31-DP-40 at depths of 0 to 1 foot bgs, 4 to 5 feet bgs, and 9 to 10 feet bgs. Samples P2IM-SM-098 to P2IM-SM-100 were collected near the location of 2-31-DP-07, samples P2IM-SM-092 to P2IM-SM-094 were collected near the location of 2-31-DP-38, and samples P2IM-SM-89 to P2IM-SM-91 were collected near the location of 2-31-DP-40 (Figure 5). The supplemental samples for 2-31-DP-07 were analyzed for VOCs and inorganics; the samples for 2-31-DP-38 were analyzed for VOCs, SVOCs, PAHs, metals and PCBs; and the samples for 2-31-DP-40 were analyzed for VOCs,

SVOCs, PAHs, and metals. The analytical results for these supplemental samples indicated no COC concentrations greater than the Industrial Area criteria.

At the locations of borings, 2-31-PD-34, 2-31-DP-36, and DP-3101, 10 supplemental samples were collected from the excavation sidewalls nearest the original locations of the borings. P2IM-SM-139 to P2IM-SM-141 were collected at respective depths of 10 feet, 5 feet and 1 foot bgs near 2-31-DP-34 and analyzed for VOCs and metals. P2IM-SM-151 to P2IM-SM-153 were collected at respective depths of 10 feet, 5 feet, and 1 foot bgs near 2-31-DP-36 and analyzed for metals and PCBs. P2IM-SM-151 was also analyzed for VOCs. Samples P2IM-SM-152.01 and P2IM-SM-153.01 were collected at the same locations and depths as P2IM-SM-152 and P2IM-SM-153 respectively and analyzed for VOCs. P2IM-SM-145 and P2IM-SM-146 were collected at respective depths of 10.5 feet and 5.9 feet near DP-3101 and analyzed for VOCs, metals & PCBs. The analytical results for the supplemental samples indicated no COC concentrations greater than the Industrial Area criteria. Supplemental sample information is presented in Tables 3 and 4, analytical data for the soil sampling is presented in Table 5 of Appendix A, and the sample locations are shown in Figure 5.

Confirmation Sampling

In the large excavation, three confirmation samples, P2IM-SM-96 (11 feet bgs), P2IM-SM-97 (6 feet bgs), and P2IM-SM-101 (6 feet bgs) were initially collected from the excavation in the vicinity of boring 2-31-DP-07 and analyzed for VOCs. TCE was detected in P2IM-SM-097 and P2IM-SM-101 in concentrations that were greater than the Industrial Area criteria of 270 µg/kg that was being used for TCE at the time of the excavations. The excavation was therefore expanded based on the analytical results, and 47 additional confirmation samples were ultimately collected (Tables 3 and 4) and variously analyzed for metals and VOCs. An additional sample, P2IM-SM-095 was collected as a result of field monitoring to check for impacted soils, and analyzed for VOCs, SVOCs, PAHs, metals, PCBs, and TPH. The analytical results for the additional samples indicated some exceedances of the Industrial Area criteria that were being used at the time of the excavation. Based upon the analytical results and the results of field monitoring, the excavation was expanded on multiple occasions until such time that the analytical results indicated no exceedances of the Industrial Area criteria. The analytical data for all soil samples are presented in Table 5 of Appendix A, and the sample locations are shown in Figure 5.

In the excavations at borings, 2-31-DP-34, 2-31-DP-36, and DP-3101, three confirmation samples were initially collected near each boring. Samples P2IM-SM-138, P2IM-SM-142, and P2IM-SM-143 were collected near boring 2-31-DP-34 at depths of 11 feet, 6 feet and 6 feet bgs respectively, analyzed for VOCs and metals, and no COCs were detected in concentrations greater than the Industrial Area criteria. Samples P2IM-SM-149, P2IM-SM-150, and P2IM-SM-154 were initially collected near boring 2-31-DP-36

at depths of 11 feet, 6 feet and 6 feet bgs respectively, analyzed for VOCs, and the analytical results indicated no exceedances of the Industrial Area criteria. However, the excavation near 2-31-DP-36 was expanded based on the results of field monitoring, and additional confirmation samples P2IM-SM-151.01 to P2IM-SM-151.05 were collected in the vicinity at depths of 5 to 11 feet bgs, analyzed for metals, and the analytical results indicated no exceedances of the Industrial Area criteria. Samples P2IM-SM-144, P2IM-SM-147, and P2IM-SM-148 were collected at respective depths of 11 feet, 6 feet, and 6 feet bgs in the excavation near boring DP-3101, analyzed for VOCs, and the analytical results indicated no exceedances of the Industrial Area criteria.

Samples P2IM-SM-249 and P2IM-SM-250 were each collected from a depth of 5 feet bgs in the excavations at NS-02-31 and NS-03-31 respectively. The samples were analyzed for metals, and the analytical results indicated no exceedances of the Industrial Area criteria. Confirmation sample information is presented in Tables 3 and 4, analytical data for the soil sampling is presented in Table 5 of Appendix A, and the sample locations are shown in Figure 5.

3.5.14 Boring DP-4408

Boring DP-4408 was completed in the Industrial Area in 2002, and was located just south of Building 2-44. Soil samples were collected at 5 to 6 feet bgs, 10 to 11 feet bgs, and 14 to 15 feet bgs, and the samples were analyzed for VOCs, SVOCs, PAHs, metals, PCBs, and TPH. The analytical results indicated that TCE was detected in the 10 to 11 foot bgs sample in a concentration of 300 µg/kg, greater than the Industrial Area criteria of 270 µg/kg that was being used in 2012.

Excavation and Monitoring

An excavation was completed at the location of boring DP-4408 (Figures 4 and 5) in 2012, to remove the soil containing the TCE that was detected in 2002. The excavation measured approximately 15 feet long by 12 feet wide by 11 feet deep, and resulted in the removal of approximately 75 cubic yards of soil. The soil was visually observed for signs of staining, and a PID was used to monitor the soil for VOCs as needed. The removed soil was properly managed for characterization and disposal.

Supplemental Sampling

Soil sampling was conducted to supplement existing data where the excavations occurred at and resulted in the removal of soil where previous RCRA samples had been collected. Samples P2IM-SM-176 (11 feet bgs) and P2IM-SM-177 (6 feet bgs) were collected from the south side of the excavation. The samples were analyzed for VOCs, SVOCs, PAHs, metals, cyanide, and TPH, and the analytical results indicated that no COC concentrations exceeded the Industrial Area criteria. Supplemental sample

information is presented in Tables 3 and 4, analytical data for the soil sampling is presented in Table 5 of Appendix A, and the sample locations are shown in Figure 5.

Confirmation Sampling

Three confirmation soil samples were collected in the excavation, including P2IM-SM-175 (11 feet bgs), P2IM-SM-178, and P2IM-SM-179. The samples were analyzed for VOCS, and the analytical results indicated that no COC concentrations exceeded the industrial Area criteria. Confirmation sample information is presented in Tables 3 and 4, analytical data for the soil sampling is presented in Table 5 of Appendix A, and the sample locations are shown in Figure 5.

3.5.15 UST PL-38

PL-38 was an underground storage tank (UST) that was located in the Industrial Area, just south of Building 2-44 (Figures 4 and 5). The tank reportedly contained oil and had a capacity of 6,000 gallons. The tank was not located in 1986 when many USTs at Plant 2 were decommissioned. The tank was found in 2012 during site redevelopment activities. The top half of the tank had been removed, and the tank had been backfilled with soil.

Excavation and Monitoring

An excavation measuring approximately 15 feet long by 8 feet wide by 10 feet deep was completed to enable removal of the tank and the removal of the soil surrounding the tank. The volume of the excavation was approximately 45 cubic yards. The soil was visually observed for signs of staining, and a PID was used to monitor the soil for VOCs as needed. The soil inside the tank was stained and had a strong petroleum odor. No staining or petroleum odors were detected in the soil surrounding the tank. The removed soils and tank were segregated and properly managed for characterization and disposal.

Confirmation Sampling

Two confirmation samples, P2IM-SM-199 and P2IM-SM-200, were collected from the bottom of the excavation at a depth of 10 feet bgs. The samples were analyzed for SVOCs, PCBs, and TPH, and the analytical results indicated that no COC concentrations exceeded the Industrial Area criteria. Confirmation sample information is presented in Tables 3 and 4, analytical data for the soil sampling is presented in Table 5 of Appendix A, and the sample locations are shown in Figure 5.

3.5.16 Sump U44-112

Sump U44-112 was discovered in the Industrial Area, just south of Building 2-44, during redevelopment activities in 2012. The structure was a concrete sump measuring approximately 2.5 feet square by

2.5 feet deep, and an 8-inch diameter pipe that trended northward from the sump was also discovered. The pipe was approximately 20 feet long, and was blocked on its north end by a concrete plug. The sump contained stained gravel with a strong petroleum odor.

Excavation and Monitoring

The concrete sump and pipe were removed and properly managed for characterization and disposal during 2012. A soil excavation measuring approximately 20 feet long by 12 feet wide by 11 feet deep was completed to remove potentially impacted soil at this location. Approximately 100 cubic yards of soil were removed from the excavation. The soil was visually observed for signs of staining, and a PID was used to monitor the soil for VOCs as needed. The removed soil was properly managed for characterization and disposal.

Confirmation Sampling

Four confirmation soil samples were collected in the excavation to confirm that potentially impacted soils had been removed. Samples P2IM-SM-210, P2IM-SM-211, and P2IM-SM-212 were collected from opposite sidewalls of the excavation at a depth of 6 feet bgs, and P2IM-SM-213 was collected from the bottom of the excavation at a depth of 11 feet bgs. The samples were analyzed for VOCs, SVOCs, PAHs, metals, PCBs, and TPH. The analytical results indicated that no COC concentrations exceeded the Industrial Area criteria. Confirmation sample information is presented in Tables 3 and 4, analytical data for the soil sampling is presented in Table 5 of Appendix A, and the sample locations are shown in Figure 5.

3.5.17 Boring SB-06304

Boring SB-06304 was completed in the Industrial Area in 1993, and was located south of Building 2-64, near the south ends of the 2-63 and 2-65 slabs. Soil samples were collected at depths of 2 feet, 5 feet, 7.5 feet and 10 feet bgs. The samples were variously analyzed for VOCs, SVOCs, metals, PCBs, and TPH. The analytical results indicated that arsenic was detected at a depth of 10 feet bgs in a concentration of 76 mg/kg, greater than the Industrial Area criteria of 20 mg/kg for arsenic.

Excavation and Monitoring

An excavation was completed at the location of boring SB-06304 (Figures 4 and 5) in 2012, to remove the arsenic-impacted soil that was detected in 1993. The excavation measured approximately 13 feet square by 11 feet deep, and resulted in the removal of approximately 70 cubic yards of soil. The soil was visually observed for signs of staining, and a PID was used to monitor the soil for VOCs as needed. The removed soil was properly managed for characterization and disposal.

Supplemental Sampling

Soil sampling was conducted to supplement existing data where the excavations occurred at and resulted in the removal of soil where previous RCRA samples had been collected. Three samples were collected near the former location of boring SB-06304 and three samples were collected near the former location of boring 2-60-DP-23. Samples P2IM-SM-266 to P2IM-SM-268 were collected at respective depths of 10 feet, 5 feet, and 1 foot bgs on the east edge of the excavation near the location of SB-06304. Samples P2IM-SM-269 to P2IM-SM-271 were collected at respective depths of 10 feet, 5 feet, and 1 foot bgs on the west edge of the excavation near the location of 2-60-DP-23. The samples were analyzed for metals, and the analytical results indicated that no COC concentrations exceeded the Industrial Area criteria. Supplemental sample information is presented in Tables 3 and 4, analytical data for the soil sampling is presented in Table 5 of Appendix A, and the sample locations are shown in Figure 5.

3.5.18 2-41 Light Pole Base

During the installation of a new base for a light pole, a pipe that contained water with an oily sheen was discovered. The light pole is located in the Industrial Area, in the footprint of the former 2-41 Building, and within the bounds of RCRA Unit SWMU 2-41.31, Machine Pits (Figure 4). The 18-inch diameter pipe was discovered at a depth of approximately 4.5 feet bgs, and extended approximately 30 feet east and 13 feet west of the light pole location.

Excavation and Monitoring

An excavation was completed at the location of the light pole and extended to the east and west to remove the pipe and soil potentially impacted by the pipe contents. The excavation measured approximately 65 feet long, by 4 to 15 feet wide, by 7 to 11 feet deep, and resulted in the removal of approximately 150 cubic yards of soil. The soil was visually observed for signs of staining, and a PID was used to monitor the soil for VOCs as needed. The removed soil and pipe were properly managed for characterization and disposal.

Confirmation Sampling

Seven confirmation samples were collected in the excavation to confirm that potentially impacted soil was removed. Sample P2IM-SM-184 was collected in the bottom of the excavation at a depth of 11 feet bgs, samples P2IM-SM-185 to P2IM-SM-188 were collected from sidewalls of the excavation at a depth of 6 feet bgs, and P2IM-SM-194 and P2IM-SM-195 were collected from sidewalls of the excavation at a depth of 7 feet bgs. The samples were analyzed for TPH, and the analytical results indicated that no COC concentrations exceeded the Industrial Area criteria. Confirmation sample information is presented

in Tables 3 and 4, analytical data for soil sampling is presented in Table 6 of Appendix A, and the sample locations are shown in Figure 5.

3.5.19 Sample P2IM-SM-017

Sample P2IM-SM-017 was collected during demolition activities in 2011 as a result of field monitoring that indicated potentially impacted soils. The sample was located in the Industrial Area and collected at a depth of 6 feet bgs, in the footprint of the former 2-41 Building, and within the bounds of RCRA Unit SWMU 2-41.33, Deactivated/Anodic Tank/Line (Figures 4 and 5). The sample was analyzed for VOCs and metals, and the analytical results indicated the detection of TCE in a concentration of 780 µg/kg, greater than the Industrial Area criteria of 270 µg/kg that was being used during 2012.

Excavation and Monitoring

An excavation was completed at the location of sample P2IM-SM-017 (Figures 4 and 5) in 2012, to remove the TCE-impacted soil that was detected in 2011. The excavation measured approximately 10 feet square by 11 feet deep, and resulted in the removal of approximately 40 cubic yards of soil. The soil was visually observed for signs of staining, and a PID was used to monitor the soil for VOCs as needed. The removed soil was properly managed for characterization and disposal.

Supplemental Sampling

Soil sampling was conducted to supplement existing data where the excavations occurred at and resulted in the removal of soil where previous RCRA samples had been collected. One sample, P2IM-SM-112 was collected at a depth of 6 feet bgs from the east sidewall of the excavation near the former location of P2IM-SM-017. The sample was analyzed for VOCs and metals, and the analytical results indicated that no COC concentrations were greater than the Industrial Area criteria. Supplemental sample information is presented in Tables 3 and 4, analytical data for the soil sampling is presented in Table 5 of Appendix A, and the sample locations are shown in Figure 5.

Confirmation Sampling

Three confirmation samples were collected in the excavation to confirm that potentially impacted soil was removed. Sample P2IM-SM-109 was collected from the bottom of the excavation at a depth of 11 feet bgs, and samples P2IM-SM-110 and P2IM-SM-111 were collected from opposite sidewalls at a depth of 6 feet bgs. The samples were analyzed for VOCs and metals, and the analytical results indicated that no COC concentrations exceeded the Industrial Area criteria. Confirmation sample information is presented in Tables 3 and 4, analytical data for the soil sampling is presented in Table 5 of Appendix A, and the sample locations are shown in Figure 5.

3.5.20 Boring 2-40-DP-056

Boring 2-40-DP-056 was completed in the Industrial Area in 2008, and was located in the footprint of Building 2-41, just south of RCRA Unit SWMU 2-41.33, Deactivated/Anodic Tank/Line. Soil samples were collected at depths of 0 to 1 foot, 4 to 5 feet, and 9 to 10 feet bgs. The samples were variously analyzed for VOCs, SVOCs, PAHs, and metals. The analytical results indicated that TCE was detected at a depth of 9 to 10 feet bgs in a concentration of 1,200 µg/kg, greater than the Industrial Area criteria of 270 µg/kg that was being used during 2012.

Excavation and Monitoring

An excavation was completed at the location of boring 2-40-DP-056 (Figures 4 and 5) in 2012, to remove the TCE-impacted soil that was detected in 2008. The excavation initially measured approximately 10 feet square by 11 feet deep, but was expanded to approximately 25 feet long by 12 feet wide by 11 feet deep, based upon the results of confirmation sampling. The excavation resulted in the removal of approximately 120 cubic yards of soil. The soil was visually observed for signs of staining, and a PID was used to monitor the soil for VOCs as needed. The removed soil was properly managed for characterization and disposal.

Supplemental Sampling

Soil sampling was conducted to supplement existing data where the excavations occurred at and resulted in the removal of soil where previous RCRA samples had been collected. Three samples were collected near the former location of boring 2-40-DP-056. Samples P2IM-SM-103 to P2IM-SM-105 were collected at respective depths of 10 feet, 5 feet, and 1 foot bgs on the west edge of the excavation near the location of 2-40-DP-056. The samples were analyzed for VOCs, SVOCs, PAHs, hexavalent chromium, and cyanide, and the analytical results indicated that no COC concentrations exceeded the Industrial Area criteria. Supplemental sample information is presented in Tables 3 and 4, analytical data for the soil sampling is presented in Table 5 of Appendix A, and the sample locations are shown in Figure 5.

Confirmation Sampling

Four confirmation samples were collected in the initial excavation. P2IM-SM-102 was collected in the bottom of the excavation at a depth of 11 feet bgs, sample P2IM-SM-106 was collected on the south edge of the initial excavation at a depth of 6 feet bgs, and P2IM-SM-107 and P2IM-SM-108 were collected on the north edge of the initial excavation at a depth of 6 feet bgs. The samples were analyzed for VOCs, and the results indicated the detection of TCE in a concentration of 360 µg/kg, greater than the Industrial Area criteria of 270 µg/kg that was being used during 2012.

Based on the results of the initial confirmation sampling, the excavation was expanded northward and four additional confirmation samples were collected. P2IM-SM-155 was collected from the expanded excavation bottom at a depth of 11 feet bgs, and samples P2IM-SM-156 to P2IM-SM-158 were collected from opposite sidewalls of the excavation at a depth of 6 feet bgs. The samples were analyzed for VOCs, and the results indicated that no COC concentrations exceeded the Industrial Area criteria. Confirmation sample information is presented in Tables 3 and 4, analytical data for soil sampling is presented in Table 6 of Appendix A, and the sample locations are shown in Figure 5.

3.5.21 Sample IA1-WC-01

Sample IA1-WC-01 was a preconstruction waste characterization sample that was collected in advance of utility removals and installations, to pre-characterize soil that would be excavated as a result of trenching activities. The sample was collected in the Industrial Area near the northwest corner of the former Building 2-40 footprint. Analytical results indicated the presence of TCE in a concentration that exceeded the Industrial Area criteria of 270 µg/kg that was being used during 2012.

Excavation and Monitoring

An excavation was completed at the location of sample IA1-WC-01 (Figures 4 and 5) to remove the TCE-impacted soil that was detected by the waste characterization sampling. The excavation initially measured approximately 10 feet square by 11 feet deep, but was expanded westward an additional 10 feet, based upon the results of confirmation sampling. The excavation resulted in the removal of approximately 80 cubic yards of soil. The soil was visually observed for signs of staining, and a PID was used to monitor the soil for VOCs as needed. The removed soil was properly managed for characterization and disposal.

Supplemental Sampling

Three supplemental samples were collected from the south sidewall of the initial excavation to supplement data provided by the waste characterization sampling at IA1-WC-01. Samples P2IM-SM-114 to P2IM-SM-116 were collected at respective depths of 10 feet, 6 feet, and 2 feet bgs. The samples were analyzed for VOCs, and the analytical results indicated that no COC concentrations exceeded the Industrial Area criteria. Supplemental sample information is presented in Tables 3 and 4, analytical data for the soil sampling is presented in Table 5 of Appendix A, and the sample locations are shown in Figure 5.

Confirmation Sampling

Three confirmation samples were collected in the initial excavation. P2IM-SM-113 was collected in the bottom of the initial excavation at a depth of 11 feet bgs, and P2IM-SM-117 and P2IM-SM-118 were collected from opposite sidewalls of the excavation at a depth of 6 feet bgs. The samples were analyzed for VOCs, and the results indicated the detection of TCE at P2IM-SM-118 in a concentration of 460 µg/kg, greater than the Industrial Area criteria of 270 µg/kg that was being used during 2012.

Based on the results of the initial confirmation sampling, the excavation was expanded westward and four additional confirmation samples were collected. P2IM-SM-159 was collected from the expanded excavation bottom at a depth of 11 feet bgs, and samples P2IM-SM-160 to P2IM-SM-162 were collected from opposite sidewalls of the excavation at a depth of 6 feet bgs. The samples were analyzed for VOCs, and the results indicated that no COC concentrations exceeded the Industrial Area criteria. Confirmation sample information is presented in Tables 3 and 4, analytical data for the soil sampling is presented in Table 5 of Appendix A, and the sample locations are shown in Figure 5.

3.5.22 UST UPL-811

A UST was discovered while removing concrete slabs and foundations in the Industrial Area in the northwest portion of Building 2-40. The UST was discovered under a 2- to 3-foot thick slab of concrete. The tank was approximately 30 feet long by 5 feet in diameter, the bottom of the tank was approximately 8 to 9 feet bgs, and the tank contained about 6 inches of thick sludge. Identification number UPL-811 was assigned to the tank. A 30-day Notice for Plant 2 UST Closure was filed with the Washington State Department of Ecology (WDOE) with an exemption request. Boeing coordinated with WDOE and the City of Tukwila, and characterized and removed the tank and its contents under the supervision of a Washington State certified UST site assessor. A UST site assessment report was submitted to WDOE and included in the RCRA record.

Excavation and Monitoring

Impacted soil was apparent underneath the tank. Approximately 2 feet of soil were initially removed from the bottom of the excavation when the tank was removed, and the soil was properly characterized and disposed. Three soil samples were initially collected from the excavation bottom at a depth of approximately 11 feet bgs to assess potentially impacted soil. The soil removed from the excavation was properly managed for characterization and disposal.

Additional soil excavation (Figures 4 and 5) was completed to remove potentially impacted soil. The excavation measured approximately 20 feet long by 10 feet wide by 11 feet deep. The excavation resulted in the removal of approximately 100 cubic yards of soil. The soil was visually observed for signs

of staining, and a PID was used to monitor the soil for VOCs as needed. The removed soil was properly managed for characterization and disposal.

Confirmation Sampling

Four confirmation samples were collected from opposite sidewalls in the bottom of the excavation to confirm that potentially impacted soil was removed. Samples P2IM-SM-134 to P2IM-SM-137 were collected at a depth of 11 feet bgs, the level of the groundwater. The samples were analyzed for TPH, and the analytical results indicated that no COC concentrations exceeded the Industrial Area criteria. Confirmation sample information is presented in Tables 3 and 4, analytical data for the soil sampling is presented in Table 5 of Appendix A, and the sample locations are shown in Figure 5.

3.6 SOIL AND GROUNDWATER MANAGEMENT

During demolition and redevelopment activities, excavated soil was loaded for immediate transport and disposition, or stockpiled temporarily on-site. Stockpiles were managed to segregate separate excavations and to segregate impacted soil from clean soil suitable for reuse. Soil was appropriately managed and characterized as necessary for reuse or off-site disposition. Soil that was excavated from an existing AOC, SWMU or OA met applicable Land Disposal Restrictions (LDRs) and draft FMCLs before and to the extent it was replaced at its original location.

Dewatering was only required during the installation of the vaults for the new stormwater system. The water removed to enable the installation of the new vaults was collected and placed in tanks, then properly managed and characterized as required for final disposition.

3.7 BACKFILL MATERIALS

Materials used to backfill excavations included clean imported soil backfill, crushed concrete, and reused native soil that met the RMA criteria. The backfill materials are discussed and documented in Section 4 of the *Work Plan Completion Report, TSCA Material Management* (Golder 2013) in Appendix E.

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4.0 FIELD MONITORING, SAMPLING AND LABORATORY ANALYSES

4.1 FIELD MONITORING

Field support activities during the demolition and removal of floor slabs, sumps, structures and foundation features, and during the excavation of soil, included visual inspections of the exposed soils and monitoring of those soils using a PID or equivalent. Subsurface conditions were observed and soil samples were collected from any observed areas of stained soils or visible sheen. Additional excavations and/or sampling were implemented when warranted by the results of field monitoring and/or subsequent analytical tests.

Excavations for the removal of impacted soil typically remained open until analytical results were available for any supplemental or confirmation samples that were collected, such that additional excavation was accommodated if needed to remove COCs with concentrations above applicable cleanup levels. Additional confirmation samples were collected when further excavation was deemed appropriate. Soil excavated during the demolition/redevelopment project was properly managed and characterized for disposal or reuse.

Field activities during soil excavations consisted of the following:

- Safely working in accordance with the requirements of the Health and Safety Plan (on CD as electronic Appendix B of Golder 2010c).
- Conducting a safety and coordination briefing each day. The briefing included a summary of the potential COCs and identification of personal protective equipment (PPE) required. At a minimum, PPE consisted of steel-toed rubber boots, tyvek coveralls, nitrile gloves, eye and ear protection, and a hardhat.
- Inspecting the excavation areas: no confined space entry was required in association with these inspection activities. The inspection of excavated areas included a written description and photographs of the condition of the excavation areas. Field records are presented in Appendix C, and photographs are included in Appendix D.
- Recording results of visual inspection and PID monitoring of excavated and exposed soils.
- All samples were identified and labeled using the numbering scheme outlined in the SAP, previously submitted as Attachment A of Golder 2010c.
- All samples collected during the course of this work were controlled using “Chain of Custody” forms. Chain of Custody forms were completed for each shipment of samples to the analytical laboratory. Chain of custody procedures were outlined in Standard Operating Procedure (SOP) TP-1.2-23 “Chain of Custody” contained in the Compendium of Sampling and Analysis Plans and Quality Assurance Plans for Boeing Plant 2 (Golder 2003a). Samples were chilled to 4ºC and placed in an insulated shipping container for delivery under chain-of-custody to the laboratory (Analytical Resources, Inc. or Eurofins [Lancaster Laboratories]) for analysis.

4.2 SOIL SAMPLING

Soil sampling activities were conducted to support the demolition and excavations. No groundwater sampling was planned or conducted unless warranted by field observations. The SAP for this project was presented in Attachment A of Golder 2010c in November 2010. The Quality Assurance Project Plan (QAPP) was submitted separately from the IM Work Plan in November 2010. A summary of the samples to be collected in support of the soil excavations was presented in Table 5 of Golder 2011c, and additional excavation and sampling were subsequently added as warranted by the conditions encountered.

Soil samples were collected in the areas described in preceding sections of this IM Completion Report. Grab soil samples were collected in locations of apparent contamination, and laboratory analyses were assigned in accordance with known or suspected COCs and the SAP. The number of samples collected at excavations was in accordance Table 5 of Golder 2011c, and the number of samples collected in newly discovered areas of impacted soil was determined in the field based on the extent of potentially impacted areas observed. Tables 3 and 4 summarize the sampling that was conducted, and Appendix A presents the analytical data for supplemental/confirmation sampling (Table 5) and all historical and recent soil sampling (Table 6) conducted in the demolition and redevelopment area. Appendix B presents the data validation reports for the confirmation and supplemental sampling.

The following types of soil sampling were conducted during the course of the project:

Potentially Impacted Soil Sampling

Based on the results of visual and/or PID monitoring, samples were collected to determine whether impacted soil was present. The number of samples was determined in the field based on the extent of potentially impacted areas, and laboratory analyses were assigned based upon the suspected COCs (from a review of historical data in the immediate vicinity) and the SAP.

Supplemental Soil Sampling

Sampling was conducted to supplement existing data where an excavation resulted in the removal of soil where previous RCRA samples had been collected and no underlying soil data existed. These supplemental samples were collected as close as possible to the locations of the previous samples to supplement those data in the RCRA database. The replaced samples were identified based on soil samples within the excavation zones described above, and whether COCs exceeded the applicable cleanup levels or not. Laboratory analyses were typically assigned based on the analyses historically performed on the removed samples. Tables 3 and 4 provide lists of the samples that were collected during demolition and redevelopment activities.

Confirmation Soil Sampling

Upon completion of the excavations, confirmation soil samples were typically collected from two opposite sidewalls and in the bottoms of the excavations to confirm that impacted soil had been adequately removed. The samples were analyzed for the COCs that exceeded the applicable cleanup levels in historical borings at the subject RCRA units or sumps, or for the suspected COCs at the locations of excavations that were added as a result of field monitoring. Additional soil was removed and additional sampling conducted as warranted by the analytical results. If COC concentrations in the confirmation samples were below the applicable area evaluation criteria, further corrective measures in these areas may not be needed.

In the event that the locations of supplemental samples and confirmation samples coincide, then the confirmation sample was eliminated. Tables 3 and 4 provide lists of the samples that were collected during demolition and redevelopment activities.

4.3 LABORATORY ANALYSIS

Soil samples were collected into pre-cleaned laboratory-provided containers. Constituent groups for laboratory analysis of soil samples were VOCs, SVOCs (including PAHs), metals, cyanide, TPH, total organic carbon (TOC), and PCBs. Analytes were assigned for testing based on historical sample COC exceedances of cleanup levels when known, or based on suspected COCs as a result of field monitoring. The previously submitted QAPP provided laboratory methods associated with these constituent groups.

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5.0 DEMOLITION CONCRETE MANAGEMENT

The concrete foundation was managed in the following manner (Golder 2010d).

- Concrete identified as containing >50 parts per million (ppm) PCBs was segregated and disposed as Toxic Substances Control Act (TSCA) waste, as detailed in the *Work Plan, TSCA Material Management, Plant 2 Demolition Area, Seattle Washington* (Landau 2010), submitted by Boeing to EPA in May 2010.
- The remaining concrete was crushed to an approximate size of 1¼ inch minus and reused as backfill in the Industrial Area, provided the PCB concentration of the material did not exceed 10 ppm. Crushed concrete backfill material found to contain greater than 10 ppm PCBs was removed, as documented in Golder 2013 (Appendix E of this report)..
- Engineering controls were implemented to suppress dust potentially containing PCBs. Water misting nozzles were mounted and located in a number of areas at the crusher. Additionally, fire hoses and misting nozzles were used elsewhere as needed for dust suppression. The engineering controls were monitored daily, and field records of the monitoring are included in Appendix D.
- The crushed concrete was sampled and analyzed for PCBs to provide a record of the PCB concentration in the material that was reused as backfill. Samples were collected during crushing and/or as the crushed material was placed.
- The sampling frequency was in accordance with Washington State Department of Ecology's *Guidance for Site Checks and Site Assessments for Underground Storage Tanks,* Table 5.3, "Minimum Number of Samples from Stockpiled Excavated Soil", which stipulates that for >2,000 cubic yards of material, the minimum number of samples required is ten plus one sample for each additional 500 cubic yards of material.
- Initial sample size was approximately 0.7 cubic feet (5 gallons) of crushed material. A sample splitter was then used to reduce the sample volume to two one-quart samples. One of the one-quart samples was submitted to the analytical laboratory for PCB analysis (EPA Method 8082), and the other sample was temporarily archived for potential additional testing.
- Crushed concrete backfill was placed only in areas that will remain in industrial usage (Figure 3, Golder 2011c) and at an elevation approximately 1.5 feet above the highest level of groundwater. The locations where concrete backfill was placed were documented and correlated with corresponding analytical results. A map was prepared to record the distribution of analytical results in the concrete fill material.

The *Work Plan Completion Report, TSCA Material Management, Plant 2 Demolition Area* (Golder 2013), provides additional details, analytical data, drawings and records that document the concrete management, and is included as Attachment E in this report.

A modern stormwater treatment system was installed throughout the area to manage the transport and discharge of rainfall. The industrial area ground surface was graded and the soil and crushed concrete backfill materials were compacted and covered by 1.5 to 4-inch thick asphalt pavement, and fenced.

Potential impacts to groundwater will be evaluated downgradient of the concrete backfill at selected A level monitoring wells in the shoreline monitoring program. These well locations were proposed in the *Draft Uplands Corrective Measures Study, Volume Xa: South Plant 2, Corrective Measures Study (CMS) Report* (EPI, F|S, Golder 2012) currently in revision. PCB analysis has been added to the semiannual suite of analyses for proposed A-level replacement shoreline monitoring wells. Several previously sampled wells will be replaced as a result of redevelopment actions. Proposed replacement wells that will incorporate PCB sampling and analysis include F (replaces PL2-036A/AR), G (replaces PL2-425A, H (replaces PL2-420), I (replaces PL2-443A) and J (replaces PL2-233A). Analytical results for PCB analyses in samples from the wells listed above will be included in semiannual shoreline monitoring reports prepared pursuant to the Plant 2 RCRA Order.

6.0 STORMWATER MANAGEMENT

Stormwater was managed in accordance with the EPA-approved methods originally provided in Golder 2010a, 2010c, 2011b, 2011c as described below.

Demolition of the buildings, concrete slabs and pavement areas removed what was essentially a "cap" over the vadose soils and groundwater. Following their demolition, stormwater in the demolished area was temporarily managed on site in a controlled fashion until the final stormwater system was installed in 2012. Vadose soils and/or groundwater were impacted with chemical constituents above the applicable criteria in a number of locations within the demolition footprint. Although soils were excavated in areas to the most restrictive criteria, the site was graded to promote drainage of stormwater to temporary retention basins lined with impervious liner material and directed for discharge through existing stormwater lines and outfalls for the duration of the demolition work. Following grading, the ground surface was temporarily covered with an impermeable barrier (plastic sheeting) to prevent infiltration of precipitation in demolition areas containing impacted soil and/or groundwater, until such time that the new stormwater system was installed.

Concrete slabs located in the overhang area of the former 2-40s Buildings and in the Southwest Bank area were left intact for subsequent demolition as part of the Duwamish Sediment Other Area (DSOA) and Southwest Bank Corrective Measure work. Sandbags, portable water-filled booms, or similar barriers were placed along the western edge of that concrete to prevent runoff from flowing to the waterway from the concrete surface.

Standard construction stormwater management practices were employed during demolition of the buildings, concrete slabs and tunnel structures. In addition to the above, stormwater was managed in accordance with applicable regulations, e.g., for the retention of solids, as applicable.

During the redevelopment phase of the project, a new stormwater system (Figure 7) was installed in the footprint of the demolition/redevelopment area, and includes new inlets, storm drain lines, manholes, perimeter connections from existing drainage systems to the new drainage system, and treatment systems (five lined bio-swales and three treatment vaults). The three new outfalls shown in Figure 7 will be installed during DSOA, Southwest Bank and Habitat construction activities. Stormwater is being treated by the new system and will be pumped to the existing storm line Z for discharge pending the installation of the new outfalls.

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7.0 SUMMARY

The objective of this IM Work Plan was to properly manage soil and stormwater during demolition and redevelopment activities. .Methods of managing the soil, stormwater, and concrete during the demolition, replacement, and excavation activities described herein were consistent with those methods documented in the approved work plan, modification, and addenda. Boeing removed and properly managed impacted soils when the removal opportunities could be best coordinated with the demolition and site redevelopment work.

The demolition and redevelopment work included the following major activities:

- The collection of 738 concrete core samples, and after compositing, the laboratory analyses of 252 samples to document the removal of concrete managed as TSCA waste (documented in Appendix E).
- The removal of approximately 60,000 cubic yards of concrete slabs, foundations, and underground structures.
- The removal and disposal of approximately 1,200 cubic yards of concrete managed as Toxic Substance Control Act (TSCA) waste (Appendix E).
- The removal and disposal of approximately 60,000 cubic yards of impacted soil.
- The collection of 391 soil samples to confirm that impacted soil had been removed or to supplement existing data where excavations occurred at and resulted in the removal of soil where previous RCRA samples had been collected.
- The processing and placement of approximately 113,500 tons of recycled crushed concrete backfill (Appendix E).
- The collection of 190 crushed concrete samples, and after compositing, the laboratory analyses of 174 samples to confirm that the crushed concrete met the requirements for use as backfill. Crushed concrete backfill containing greater than 10 ppm PCBs was removed as documented in Golder 2013 (Appendix E).
- The import and placement of approximately 125,000 tons of clean soil backfill (Appendix E).
- The installation of approximately 14,000 linear feet of new stormwater lines, along with 5 lined bio-swales and 3 modern stormwater treatment vaults.
- The placement of approximately 30 acres of asphalt pavement.

As an IM, this work was not intended to be a final remedy. However, work performed under this IM was done in a manner supportive of that which might be required for a final remedy.

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8.0 REFERENCES

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TABLES

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Table 1: Soil Evaluation Criteria by Area Type
Boeing Plant 2: 2-31, 2-40s & 2-60s/2-66 Demolition/Redevelopment Areas

TMCL Based Evaluation Criteria for Demolition Projects			
Area Type	**Location**	**Current Evaluation Criteria**	**RCRA Action**
Industrial Area	East Marginal Way S. to Eastern Fence of Stormwater Area	Industrial Criteria	RCRA: Upland Soil
Stormwater Area	Stormwater Bioswale and Vault Area as Shown on Figure 3	Stormwater Criteria	RCRA: Upland Soil
Paved Shoreline Area	16th Ave S, north of Stormwater and Habitat Areas	Paved Shoreline Criteria	RCRA: Upland Soil
Habitat Area	Toe of Slope to Stormwater Area (including SW Bank)	Habitat Criteria	RCRA: DSOA/SW Bank

Note: Current Evaluation Criteria consist of those being used as of March 2013

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Table 2: Soil Cleanup Levels by Area Type
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

		Previous Evaluation Criteria			Previous Evaluation Criteria by Area Type				Current Evaluation Criteria by Area Type			
		EPA RSL Industrial Includes Ingestion, Dermal, and Inhalation[1]			Industrial Area	Stormwater Area	Riparian Area[2]	Bank Area (sediment)	Industrial Area	Stormwater Area	Paved Shoreline Area	Habitat Area
Constituent	**Units**		**SMS SQS**	**EPA TMCL**	**Industrial**	**EPA TMCL**	**Lowest of EPA TMCL and SMS SQS**	**SMS SQS**	**TMCL/ interim FMCL**	**TMCL/ interim FMCL**	**TMCL/ interim FMCL**	**TMCL/ interim FMCL**
INORGANICS												
Antimony	mg/kg	200	--	31	200	31	31	--	NA	NA	31	NA
Arsenic[3]	mg/kg	20	57	20	20	20	20	57	20	20	20	20
Barium	mg/kg	99,000	--	100	99,000	100	100	--	99,000	640	15,000	640
Cadmium	mg/kg	450	5.1	4.0	450	4.0	4.0	5.1	450	4.0	4.0	4.0
Chromium[4]	mg/kg	NA	260	NA	NA	NA	260	260	NA	NA	NA	NA
Chromium(VI)	mg/kg	28	--	1.2	28	1.2	1.2	--	28	1.2	1.2	1.2
Cobalt	mg/kg	150	--	12	150	12	12	--	150	12	23	12
Copper	mg/kg	20,000	390	80	20,000	80	80	390	20,000	80	80	80
Iron	mg/kg	360,000	--	59,000	360,000	59,000	59,000	--	360,000	59,000	59,000	59,000
Lead[5]	mg/kg	1,000	450	250	1,000	250	250	450	1,000	250	250	250
Manganese	mg/kg	12,000	--	1,800	12,000	1,800	1,800	--	NA	NA	1,800	NA
Mercury[6]	mg/kg	28	0.41	1.5	28	1.5	0.41	0.41	28	1.5	1.5	1.5
Mercury (inorganic salts)	mg/kg	150	--	23	150	23	23	--	NA	NA	23	NA
Methylmercury	mg/kg	51	--	3.8	51	3.8	3.8	--	NA	NA	NA	NA
Molybdenum	mg/kg	2,500	--	21	2,500	21	21	--	2,600	2,000	390	2,000
Nickel	mg/kg	10,000	--	210	10,000	210	210	--	10,000	210	210	210
Selenium	mg/kg	2,500	--	1.0	2,500	1.0	1.0	--	2,500	1.0	390	1.0
Zinc	mg/kg	150,000	410	1,400	150,000	1,400	410	410	150,000	1,400	1,400	1,400
Cyanide (free)	mg/kg	10,000	--	20	10,000	20	20	--	10,000	20	1,600	20
SEMIVOLATILE ORGANIC COMPOUNDS												
Phenols, Benzoic Acid, and Carbozole												
Benzoic acid	µg/kg	--	650	--	--	--	650	650	NA	NA	NA	NA
Benzyl alcohol	µg/kg	--	57	--	--	--	57	57	NA	NA	NA	NA
Phthalates												
bis(2-Ethylhexyl)phthalate	µg/kg	770,000	1,300	35,000	770,000	35,000	1,300	1,300	770,000	35,000	35,000	35,000
Carcinogenic Polycyclic Aromatic Hydrocarbons												
Chrysene	µg/kg	--	1,400	--	--	--	1,400	1,400	NA	NA	NA	NA
Benzo(a)anthracene	µg/kg	--	1,300	--	--	--	1,300	1,300	NA	NA	NA	NA
Benzo(a)pyrene	µg/kg	--	1,600	--	--	--	1,600	1,600	NA	NA	NA	NA
Benzo(b)fluoranthene[7]	µg/kg	--	3,200	--	--	--	3,200	3,200	NA	NA	NA	NA
Benzo(k)fluoranthene[7]	µg/kg	--	3,200	--	--	--	3,200	3,200	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	µg/kg	--	600	--	--	--	600	600	NA	NA	NA	NA
Dibenz(a,h)anthracene	µg/kg	--	230	--	--	--	230	230	NA	NA	NA	NA
Benzo(a)pyrene TEQ[8, 9]	µg/kg	1.4	--	15	1.4	15	15	--	NA	NA	NA	NA
Total cPAH as Bap TEQ	µg/kg								1,400	140	140	140
Non-carcinogenic Polycyclic Aromatic Hydrocarbons												
Naphthalene	µg/kg	180,000	2,100	3,600	180,000	3,600	2,100	2,100	180,000	3,600	3,600	3,600
1-Methylnaphthalene	µg/kg	350,000	--	16,000	350,000	16,000	16,000	--	350,000	16,000	16,000	16,000

Table 2: Soil Cleanup Levels by Area Type
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

		Previous Evaluation Criteria			Previous Evaluation Criteria by Area Type				Current Evaluation Criteria by Area Type			
		EPA RSL Industrial Includes Ingestion, Dermal, and Inhalation[1]	SMS SQS	EPA TMCL	Industrial Area	Stormwater Area	Riparian Area[2]	Bank Area (sediment)	Industrial Area	Stormwater Area	Paved Shoreline Area	Habitat Area
Constituent	Units				Industrial	EPA TMCL	Lowest of EPA TMCL and SMS SQS	SMS SQS	TMCL/ interim FMCL	TMCL/ interim FMCL	TMCL/ interim FMCL	TMCL/ interim FMCL
SEMIVOLATILE ORGANIC COMPOUNDS (continued)												
Non-carcinogenic Polycyclic Aromatic Hydrocarbons (continued)												
Pyrene	µg/kg	11,000,000	2,600	240,000	11,000,000	240,000	2,600	2,600	11,000,000	240,000	240,000	240,000
Miscellaneous Heterocyclic Compound												
None												
POLYCHLORINATED BIPHENYLS												
Total PCB[10]	µg/kg	10,000	130	33	10,000	33	33	130	10,000	33	220	33
Aroclor 1016/1242	µg/kg	10,000	--	33	10,000	33	33	--	NA	NA	NA	NA
Aroclor 1248	µg/kg	10,000	--	220	10,000	220	220	--	NA	NA	NA	NA
Aroclor 1254	µg/kg	10,000	--	33	10,000	33	33	--	NA	NA	NA	NA
Aroclor 1260	µg/kg	10,000	--	33	10,000	33	33	--	NA	NA	NA	NA
VOLATILE ORGANIC COMPOUNDS (VOCs)												
Chlorinated Volatile Organic Compounds												
Vinyl chloride	µg/kg	4.1	--	1.0	4.1	1.0	1.0	--	NA	NA	670	NA
Trichloroethene	µg/kg	13,000	--	18	13,000	18	18	--	19,000	51	270	51
1,1,2,2-tetrachloroethane	µg/kg	23,000	--	13	23,000	13	13	--	NA	NA	560	NA
1,1,2-Trichloroethane	µg/kg	48,000	--	73	48,000	73	73	--	NA	NA	1,100	NA
1,1-Dichloroethane[13]	µg/kg	160,000	--	710	10,000	710	710	--	NA	NA	3,300	NA
1,1-Dichloroethene[13]	µg/kg	1,000,000	--	81	10,000	81	81	--	NA	NA	240,000	NA
1,2,4-Trichlorobenzene	µg/kg	490,000	31	80	490,000	80	31	31	NA	NA	22,000	NA
cis-1,2-dichloroethene[13]	µg/kg	1,000,000	--	2,600	10,000	2,600	2,600	--	1,000,000	2,600	160,000	2,600
Hexachlorobenzene	µg/kg	--	22	--	--	--	22	22	NA	NA	NA	NA
Hexachlorobutadiene	µg/kg	--	11	--	--	--	11	11	NA	NA	NA	NA
N-Nitrosodiphenylamine	µg/kg	--	28	--	--	--	28	28	NA	NA	NA	NA
Pentachlorophenol	µg/kg	--	360	--	--	--	360	360	NA	NA	NA	NA
Tetrachloroethene	µg/kg	18,000	--	1.6	18,000	1.6	1.6	--	NA	NA	560	NA
Methylene chloride[13]	µg/kg	470,000	--	650	10,000	650	650	--	NA	NA	11,000	NA
Aromatic Volatile Organic Compounds												
Benzene	µg/kg	49,000	--	93	49,000	93	93	--	49,000	93	1,100	93
Ethylbenzene	µg/kg	240,000	--	230	240,000	230	230	--	NA	NA	5,400	NA
m,p-Xylene[11]	µg/kg	15,000,000	--	160,000	15,000,000	160,000	160,000	--	NA	NA	NA	NA
Xylenes (total)[14]	µg/kg	2,700,000	--	200,000	2,000,000	200,000	200,000	--	NA	NA	630,000	NA
Toluene[14]	µg/kg	20,000,000	--	100,000	2,000,000	100,000	100,000	--	NA	NA	5,000,000	NA
Miscellaneous VOCs												
None												

Table 2: Soil Cleanup Levels by Area Type
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

		Previous Evaluation Criteria			Previous Evaluation Criteria by Area Type				Current Evaluation Criteria by Area Type			
					Industrial Area	Stormwater Area	Riparian Area[2]	Bank Area (sediment)	Industrial Area	Stormwater Area	Paved Shoreline Area	Habitat Area
Constituent	Units	EPA RSL Industrial Includes Ingestion, Dermal, and Inhalation[1]	SMS SQS	EPA TMCL	Industrial	EPA TMCL	Lowest of EPA TMCL and SMS SQS	SMS SQS	TMCL/ interim FMCL	TMCL/ interim FMCL	TMCL/ interim FMCL	TMCL/ interim FMCL
PETROLEUM HYDROCARBONS[12]												
TPH - Kerosene Range	mg/kg	100	--	100	100	100	100	--	2,000	2,000	2,000	2,000
TPH - Diesel Range	mg/kg	2,000	--	2,000	2,000	2,000	2,000	--	2,000	2,000	2,000	2,000
TPH - Heavy Fuel Oil Range	mg/kg								2,000	2,000	2,000	2,000
TPH - Gasoline Range	mg/kg	30	--	30	30	30	30	--	30	30	30	30
TPH - Lube Oil Range	mg/kg								2,000	2,000	2,000	2,000
TPH - Motor oil Range	mg/kg	2,000	--	2,000	2,000	2,000	2,000	--	2,000	2,000	2,000	2,000
TPH - Non-petroleum Hydrocarbon as Diesel	mg/kg								2,000	2,000	2,000	2,000
TPH - Petroleum Hydrocarbon as Diesel	mg/kg								2,000	2,000	2,000	2,000
TPH - Oil and Grease	mg/kg	2,000	--	2,000	2,000	2,000	2,000	--	2,000	2,000	2,000	2,000
TPH	mg/kg	2,000	--	2,000	2,000	2,000	2,000	--	2,000	2,000	2,000	2,000
TPH - Bunker C	mg/kg	2,000	--	2,000	2,000	2,000	2,000	--	2,000	2,000	2,000	2,000
TPH - Jet Fuel as Jet A	mg/kg	30	--	30	30	30	30	--	2,000	2,000	2,000	2,000
TPH - Jet Fuel as JP-4	mg/kg								2,000	2,000	2,000	2,000
TPH - Mineral Spirits Range	mg/kg	100	--	100	100	100	100	--	100	100	100	100

Notes:

1 EPA RSL calculations using EPA toxicity factors and exposure parameters as presented in associated tables in TMCL Technical Memorandum; excess individual lifetime cancer risk was adjusted to 1 in 100,000 and ingestion rate was increased to 200 mg/day by EPA Region 10 (R10) risk management decision.

2 Evaluation of soil within the Riparian Area is based on comparison to EPA TMCLs and industrial and residential land use criteria (that stem from the ongoing TMCL/FMCL process.

3 The EPA TMCL is equivalent to Washington State Background levels of arsenic in soil; this value is preferentially chosen in the Industrial Risk Management Area because the EPA RSL is lower than background.

4 NA - Not applicable. Chromium (VI) is the regulated species for soil.

5 MTCA C industrial cleanup levels were used as a surrogate for this constituent because the the MTCA C cleanup level is lower than the corresponding EPA RSL.

6 TMCLs were developed for methyl mercury, elemental mercury, and inorganic mercury salts. However, only elemental mercury and mercury as inorganic mercury salts were carried forward as COCs for Boeing Plant 2. Because the specific form of mercury in soil is not specified, the EPA RSL and EPA TMCLs in this table are compared to the lower of the elemental mercury and mercury as inorganic mercury salts cleanup levels.

7 No SMS standard exists for benzo(b)fluoranthene or benzo(k)fluoranthene; therefore, the SMS standard for total benzofluoranthenes (which includes b, j, and k cogeners) is used as a surrogate.

8 Washington state regulates carcinogenic polycyclic aromatic hydrocarbons using the benzo(a)pyrene Toxic Equivalent; therefore, no individual soil cleanup levels have been developed, and the cells are "grayed out." Refer to https://fortress.wa.gov/ecy/clarc/FocusSheets/tef.pdf.

9 EPA has approved the use of Ecology's TEFs for this site.

10 For Total PCBs, the cleanup level corresponding to TSCA High Occupancy With Cap is used in place of the EPA RSL. This cleanup level is used in place of the EPA RSL cleanup level for individual Aroclors, and the cells are "grayed out."

11 Though TMCLs were developed for m-Xylene and p-Xylene individually, data for these constituents is reported as m,p-Xylene. Therefore, the EPA RSL and EPA TMCLs in this table are compared to the lower of the m-Xylene and p-Xylene cleanup levels.

12 TPH data is reported and recorded in the Boeing database under a variety of different names. A TPH Mapping Table has been provided below, which compares the reported parameter to the appropriate regulatory standard.

13 Industrial Area "Applicable Evaluation Criteria by Area Type" and "Criteria for Removal by Area Type" reduced from EPA RSL to provide for protection of groundwater.

14 Industrial Area "Applicable Evaluation Criteria by Area Type" and "Criteria for Removal by Area Type" reduced from EPA RSL to account for MTCA product limitation

Abbreviations:

MTCA	Model Toxics Control Act
EPA	U.S. Environmental Protection Agency
RSL	Regional screening level
TMCL	Target Media Cleanup Levels
SMS	Sediment Management Standards (WAC 173-204)
SQS	Sediment Quality Standard

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Table 3: Supplemental and Confirmation Soil Sampling Summary
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Excavation Location	New Sample No.	Boring No.	RCRA Unit	New Sample Location	Approx. Sample Depth (ft - bgs)	Analytes	Comments
OA 9 FORMER USTs PL-16, 17, 18, & SWMU 2-78.6 OIL WATER SEPARATOR							
SUPPLEMENTAL SOIL SAMPLES - (13 samples planned)							
	P2IM-SM-218-5-S-S	PL2-311A	OA 9	N Sidewall	5	VOCs, SVOCs, PCBs, & TPH	
	P2IM-SM-219-7.5-S	PL2-311A	OA 9	N Sidewall	7.5	VOCs, SVOCs, PCBs, & TPH	
	P2IM-SM-219-7.5-CL	PL2-311A	OA 9	N Sidewall	7.5	VOCs, SVOCs, PCBs, & TPH	Co-located
	P2IM-SM-220-10-S-S	PL2-311A	OA 9	N Sidewall	10	VOCs, SVOCs, PCBs, & TPH	
	P2IM-SM-214-1.5-S-S	PL2-606A	OA 9	E Sidewall	1.5	VOCs, inorganics & TPH	
	P2IM-SM-215-2.5-S-S	PL2-606A	OA 9	E Sidewall	2.5	VOCs, inorganics & TPH	
	P2IM-SM-216-5.2-S-S	PL2-606A	OA 9	E Sidewall	5.2	VOCs, inorganics & TPH	
	P2IM-SM-217-10-S-S	PL2-606A	OA 9	E Sidewall	10	VOCs, inorganics & TPH	
	P2IM-SM-221-3.2-S-S	SW-39	OA 9	S Sidewall	3.2	VOCs, SVOCs, PAHs, inorganics, PCBs, & TPH	
	P2IM-SM-222-10.1-S-S	SW-39	OA 9	S Sidewall	10.1	VOCs, SVOCs, PAHs, inorganics, PCBs, & TPH	
	P2IM-SM-228-7.5-S-S	PL2-310A	OA 9	W Sidewall	7.5	TPH	
	P2IM-SM-229-10-S-S	PL2-310A	OA 9	W Sidewall	10	TPH	
	P2IM-SM-224-5-S-S	SB-04412	OA 9	S Sidewall	5	TPH	
	P2IM-SM-225-7.5-S-S	SB-04412	OA 9	S Sidewall	7.5	TPH	
	14 Total Supplemental Samples						
CONFIRMATION SOIL SAMPLES - (3 samples planned)							
	P2IM-SM-223-5-S-C	N/A	OA 9	S Sidewall	5	TPH & metals	
	P2IM-SM-226-5-S-C	N/A	OA 9	N Sidewall	5	TPH & metals	
	P2IM-SM-226.01-10-S-C	N/A	OA 9	E Sidewall	10	TPH	
	P2IM-SM-226.02-05-S-C	N/A	OA 9	E Sidewall	5	TPH	
	P2IM-SM-226.03-10-S-C	N/A	OA 9	N Sidewall	10	TPH	
	P2IM-SM-226.04-05-S-C	N/A	OA 9	N Sidewall	5	TPH	
	P2IM-SM-226.05-10-S-C	N/A	OA 9	W Sidewall	10	TPH	
	P2IM-SM-226.06-05-S-C	N/A	OA 9	W Sidewall	5	TPH	
	P2IM-SM-227-11-S-C	N/A	OA 9	Excavation bottom	11	TPH & metals	
	9 Total Confirmation Samples						
OA 14 BUILDING 2-49 MACHINE PITS - (No samples planned)							
SUPPLEMENTAL SAMPLES							
	N/A	N/A					
CONFIRMATION SAMPLES							
	N/A	N/A					
OA 21 BUILDING 2-44 MACHINE SHOP AREA							
SUPPLEMENTAL SAMPLES - (4 samples planned)							
	P2IM-SM-124-10-S-S	SB-04422	OA 21	SE Sidewall	10	PCBs & TPH	
	P2IM-SM-125-05-S-S	SB-04422	OA 21	SE Sidewall	5	PCBs & TPH	
	P2IM-SM-126-02-S-S	SB-04422	OA 21	SE Sidewall	2	PCBs & TPH	
	P2IM-SM-129-7.5-S-S	SB-04425	OA 21	NW Sidewall	7.5	PCBs	
	4 Total Supplemental Samples						
CONFIRMATION SOIL SAMPLES - (3 samples planned)							
	P2IM-SM-123-11-S-C	N/A	OA 21	Excavation bottom	11	PCBs & TPH	
	P2IM-SM-124.01-11-S-C	N/A	OA 21	Excavation bottom	11	PCBs & TPH	

Table 3: Supplemental and Confirmation Soil Sampling Summary
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Excavation Location	New Sample No.	Boring No.	RCRA Unit	New Sample Location	Approx. Sample Depth (ft - bgs)	Analytes	Comments
	P2IM-SM-124.02-10-S-C	N/A	OA 21	E Sidewall	10	PCBs & TPH	
	P2IM-SM-124.03-05-S-C	N/A	OA 21	E Sidewall	5	PCBs & TPH	
	P2IM-SM-124.04-10-S-C	N/A	OA 21	S Sidewall	10	PCBs & TPH	
	P2IM-SM-124.05-05-S-C	N/A	OA 21	S Sidewall	5	PCBs & TPH	
	P2IM-SM-124.05a-11-S-C	N/A	OA 21	Excavation bottom	11	PCBs	
	P2IM-SM-124.05b-10-S-C	N/A	OA 21	SE Sidewall	10	PCBs	
	P2IM-SM-124.05c-05-S-C	N/A	OA 21	SE Sidewall	5	PCBs	
	P2IM-SM-124.05d-10-S-C	N/A	OA 21	NE Sidewall	10	PCBs	
	P2IM-SM-124.05e-05-S-C	N/A	OA 21	NE Sidewall	5	PCBs	
	P2IM-SM-124.05f-10-S-C	N/A	OA 21	SW Sidewall	10	PCBs	
	P2IM-SM-124.05g-05-S-C	N/A	OA 21	SW Sidewall	5	PCBs	
	P2IM-SM-124.06-10-S-C	N/A	OA 21	W Sidewall	10	PCBs & TPH	
	P2IM-SM-124.07-05-S-C	N/A	OA 21	W Sidewall	5	PCBs & TPH	
	P2IM-SM-127-06-S-C	N/A	OA 21	SE Sidewall	5	PCBs & TPH	
	P2IM-SM-128-06-S-C	N/A	OA 21	NW Sidewall	5	PCBs & TPH	
	P2IM-SM-128.01-11-S-C	N/A	OA 21	SW Bottom	11	PCBs & TPH	
	P2IM-SM-128.02-10-S-C	N/A	OA 21	N Sidewall	10	PCBs & TPH	
	P2IM-SM-128.03-05-S-C	N/A	OA 21	W Sidewall	5	PCBs & TPH	
	P2IM-SM-128.03a-11-S-C	N/A	OA 21	S Bottom	11	PCBs	
	P2IM-SM-128.03b-10-S-C	N/A	OA 21	SE Sidewall	10	PCBs	
	P2IM-SM-128.03c-05-S-C	N/A	OA 21	SE Sidewall	5	PCBs	
	P2IM-SM-128.03d-10-S-C	N/A	OA 21	SW Sidewall	10	PCBs	
	P2IM-SM-128.03e-05-S-C	N/A	OA 21	SW Sidewall	5	PCBs	
	P2IM-SM-128.04-10-S-C	N/A	OA 21	S Sidewall	10	PCBs & TPH	
	P2IM-SM-128.05-05-S-C	N/A	OA 21	S Sidewall	5	PCBs & TPH	
	P2IM-SM-128.06-10-S-C	N/A	OA 21	W Sidewall	10	PCBs & TPH	
	P2IM-SM-128.07-05-S-C	N/A	OA 21	N Sidewall	5	PCBs & TPH	
	P2IM-SM-128.07a-11-S-C	N/A	OA 21	N Bottom	11	PCBs	
	P2IM-SM-128.07b-10-S-C	N/A	OA 21	NW Sidewall, W End	10	PCBs	
	P2IM-SM-128.07c-05-S-C	N/A	OA 21	NW Sidewall, W End	5	PCBs	
	P2IM-SM-128.07d-10-S-C	N/A	OA 21	NW Sidewall, E End	10	PCBs	
	P2IM-SM-128.07d1-11-S-C	N/A	OA 21	NW Bottom	11	PCBs	
	P2IM-SM-128.07d2-10-S-C	N/A	OA 21	NW Sidewall	10	PCBs	
	P2IM-SM-128.07d3-05-S-C	N/A	OA 21	NW Sidewall	5	PCBs	
	P2IM-SM-128.07d3a-10-S-C	N/A	OA 21	NW Sidewall	10	PCBs	
	P2IM-SM-128.07d3b-05-S-C	N/A	OA 21	NW Sidewall	5	PCBs	
	P2IM-SM-128.07d4-10-S-C	N/A	OA 21	NE Sidewall	10	PCBs	
	P2IM-SM-128.07d5-05-S-C	N/A	OA 21	NE Sidewall	5	PCBs	
	P2IM-SM-128.07d6-10-S-C	N/A	OA 21	SW Sidewall	10	PCBs	
	P2IM-SM-128.07d7-05-S-C	N/A	OA 21	SW Sidewall	5	PCBs	
	P2IM-SM-128.07d7a-10-S-C	N/A	OA 21	SW Sidewall	10	PCBs	
	P2IM-SM-128.07d7b-05-S-C	N/A	OA 21	SW Sidewall	5	PCBs	
	P2IM-SM-128.07e-05-S-C	N/A	OA 21	NW Sidewall, E End	5	PCBs	
	45 Total Confirmation Samples						

Table 3: Supplemental and Confirmation Soil Sampling Summary
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Excavation Location	New Sample No.	Boring No.	RCRA Unit	New Sample Location	Approx. Sample Depth (ft - bgs)	Analytes	Comments
SWMU 2-41.30 MANHOLE VAULT							Completed Spring 2011
SUPPLEMENTAL SAMPLES - (5 samples planned)							
	P2IM-SM-008-001-S-S	2-40-DP-033	SWMU 2-41.30	E Sidewall	1	VOCs, inorganics, & TPH	Completed Spring 2011
	P2IM-SM-009-005-S-S	2-40-DP-033	SWMU 2-41.30	E Sidewall	5	VOCs, inorganics, & TPH	Completed Spring 2011
	P2IM-SM-009-005-S-CL	2-40-DP-033	SWMU 2-41.30	E Sidewall	5	VOCs, inorganics, & TPH	Completed Spring 2011, Co-located
	P2IM-SM-010-010-S-S	2-40-DP-033	SWMU 2-41.30	E Sidewall	10	VOCs, inorganics, & TPH	Completed Spring 2011
	P2IM-SM-011-011-S-S	SB-04130	SWMU 2-41.30	S Sidewall	11	VOCs, inorganics, PCBs & TPH	Completed Spring 2011
	P2IM-SM-012-11.5-S-S	SB-04131	SWMU 2-41.30	N Sidewall	11.5	VOCs, inorganics, PCBs & TPH	Completed Spring 2011
	6 Total Supplemental Samples						
CONFIRMATION SOIL SAMPLES - (3 samples planned)							
	P2IM-SM-013-006-S-C	N/A	SWMU 2-41.30	N Sidewall	6	VOCs, inorganics, PCBs & TPH	Completed Spring 2011
	P2IM-SM-014-006-S-C	N/A	SWMU 2-41.30	S Sidewall	6	VOCs, inorganics, PCBs & TPH	Completed Spring 2011
	P2IM-SM-015-011-S-C	N/A	SWMU 2-41.30	Excavation bottom, N Side	11	VOCs, inorganics, PCBs & TPH	Completed Spring 2011
	3 Total Confirmation Samples						
SWMU 2-41.36 UNDERFLOW FLUME							Completed Spring 2011
SUPPLEMENTAL SAMPLES - (1 sample planned)							
	P2IM-SM-001-001-S-S	SB-04114	SWMU 2-41.36	S Sidewall	1	VOCs, SVOCs, & inorganics	Completed Spring 2011
	1 Total Supplemental Samples						
CONFIRMATION SOIL SAMPLES - (3 samples planned)							
	P2IM-SM-002-2.0-S-C	N/A	SWMU 2-41.36	E Sidewall	2	Cyanide	Completed Spring 2011
	P2IM-SM-003-2.0-S-C	N/A	SWMU 2-41.36	W Sidewall	2	Cyanide	Completed Spring 2011
	P2IM-SM-004-4.5-S-C	N/A	SWMU 2-41.36	Excavation bottom	4.5	Cyanide	Completed Spring 2011
	P2IM-SM-022-11-S-C	N/A	SWMU 2-41.36	Center Bottom	11	PCBs & Cyanide	
	P2IM-SM-023-06-S-C	N/A	SWMU 2-41.36	N Center Sidewall	6	PCBs & Cyanide	
	P2IM-SM-024-11-S-C	N/A	SWMU 2-41.36	W Center Bottom	11	PCBs & Cyanide	
	P2IM-SM-025-06-S-C	N/A	SWMU 2-41.36	NW Sidewall	6	PCBs & Cyanide	
	P2IM-SM-026-06-S-C	N/A	SWMU 2-41.36	W Sidewall	6	PCBs & Cyanide	
	P2IM-SM-027-06-S-C	N/A	SWMU 2-41.36	SW Sidewall	6	PCBs & Cyanide	
	P2IM-SM-028-06-S-C	N/A	SWMU 2-41.36	S Center Sidewall	6	PCBs & Cyanide	
	P2IM-SM-031-11-S-C	N/A	SWMU 2-41.36	E Center Bottom	11	PCBs & Cyanide	
	P2IM-SM-032-11-S-C	N/A	SWMU 2-41.36	E Bottom	11	PCBs & Cyanide	
	P2IM-SM-033-06-S-C	N/A	SWMU 2-41.36	NE Sidewall	6	PCBs & Cyanide	
	P2IM-SM-034-06-S-C	N/A	SWMU 2-41.36	E Sidewall	6	PCBs & Cyanide	
	P2IM-SM-035-06-S-C	N/A	SWMU 2-41.36	SE Sidewall	6	PCBs & Cyanide	
	15 Total Confirmation Samples						
POTENTIALLY IMPACTED SAMPLE - (no samples planned)							
	P2IM-SM-006-6.0-S-P	N/A	SWMU 2-41.36	W Side of Excavation	6	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-007-6.0-S-P	N/A	SWMU 2-41.36	E Side of Excavation	6	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	2 Total Potentially impacted Samples						

Table 3: Supplemental and Confirmation Soil Sampling Summary
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Excavation Location	New Sample No.	Boring No.	RCRA Unit	New Sample Location	Approx. Sample Depth (ft - bgs)	Analytes	Comments
NORTH 1/3 STORMWATER AREA MASS EXCAVATION							
SUPPLEMENTAL SAMPLES - (9 samples planned)							
	P2IM-SM-038-10-S-S	N/A		North Sidewall, NW corner	9 - 10	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-039-05-S-S	N/A		North Sidewall, NW corner	4 - 5	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-040-01-S-S	N/A		North Sidewall, NW corner	0 - 1	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-041-10-S-S	N/A		North Sidewall, Center	9 - 10	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-042-05-S-S	N/A		North Sidewall, Center	4 - 5	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-043-01-S-S	N/A		North Sidewall, Center	0 - 1	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-044-10-S-S	N/A		North Sidewall, NE Corner	9 - 10	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-045-05-S-S	N/A		North Sidewall, NE Corner	4 - 5	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-046-01-S-S	N/A		North Sidewall, NE Corner	0 - 1	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-047-10-S-S	N/A		SW Sidewall	10	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-047-10-S-CL	N/A		SW Sidewall	10	VOCs	Co-located
	P2IM-SM-048-05-S-S	N/A		SW Sidewall	5	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-049-01-S-S	N/A		SW Sidewall	1	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-050-10-S-S	N/A		S Central Sidewall	10	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-051-05-S-S	N/A		S Central Sidewall	5	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-052-01-S-S	N/A		S Central Sidewall	1	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-053-10-S-S	N/A		SE Sidewall	10	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-054-05-S-S	N/A		SE Sidewall	5	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-055-01-S-S	N/A		SE Sidewall	1	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	19 Total Supplemental Samples						
CONFIRMATION SOIL SAMPLES - (no samples planned)							
	P2IM-SM-040.01-01-S-C	N/A		N Central Sidewall	1	PCBs	
	P2IM-SM-043.01-01-S-C	N/A		N Central Sidewall	1	PCBs	
	P2IM-SM-047.01-10-S-C	N/A		SW Sidewall	10	PCBs	
	P2IM-SM-050.01-10-S-S	N/A		S Central Sidewall	10	PCBs	
	P2IM-SM-053.01-10-S-C	N/A		SE Sidewall	10	PCBs	
	P2IM-SM-053.02-10-S-C	N/A		SE Sidewall	10	PCBs	
	6 Total Confirmation Samples						
SOUTH 1/3 STORMWATER AREA MASS EXCAVATION							
SUPPLEMENTAL SAMPLES - (42 samples planned)							
	P2IM-SM-163-10-S-S	N/A		North Sidewall, NW corner	9 - 10	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-164-06-S-S	N/A		North Sidewall, NW corner	4 - 5	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-165-01-S-S	N/A		North Sidewall, NW corner	0 - 1	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-166-10-S-S	N/A	OA 14	North Sidewall, Center	9 - 10	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-167-06-S-S	N/A	OA 14	North Sidewall, Center	4 - 5	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-168-01-S-S	N/A	OA 14	North Sidewall, Center	0 - 1	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-169-10-S-S	N/A	OA 14	North Sidewall, NE Corner	9 - 10	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-169-10-S-CL	N/A	OA 14	North Sidewall, NE Corner	9 - 10	VOCs, TPH	Co-located
	P2IM-SM-170-06-S-S	N/A	OA 14	North Sidewall, NE Corner	4 - 5	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-171-10-S-S	N/A	OA 14	East Sidewall, 50 ft distance	9 - 10	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-172-06-S-S	N/A	OA 14	East Sidewall, 50 ft distance	4 - 5	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-173-10-S-S	N/A		East Sidewall, 100 ft distance	9 - 10	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-174-06-S-S	N/A		East Sidewall, 100 ft distance	4 - 5	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	

Table 3: Supplemental and Confirmation Soil Sampling Summary
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Excavation Location	New Sample No.	Boring No.	RCRA Unit	New Sample Location	Approx. Sample Depth (ft - bgs)	Analytes	Comments
	P2IM-SM-201-10-S-S	N/A		East Sidewall, 150 ft distance	9 - 10	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-202-05-S-S	N/A		East Sidewall, 150 ft distance	4 - 5	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-202-05-S-CL	N/A		East Sidewall, 150 ft distance	4 - 5	VOCs	Co-located
	P2IM-SM-203-01-S-S	N/A		East Sidewall, 150 ft distance	0 - 1	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-207-10-S-S	N/A		East Sidewall, 200 ft distance	9 - 10	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-208-05-S-S	N/A		East Sidewall, 200 ft distance	4 - 5	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-209-01-S-S	N/A		East Sidewall, 200 ft distance	0 - 1	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-237-10-S-S	N/A	OA 1 & OA 2	East Sidewall, 400 ft distance	9 - 10	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-238-05-S-S	N/A	OA 2	East Sidewall, 400 ft distance	4 - 5	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-239-01-S-S	N/A	OA 2	East Sidewall, 400 ft distance	0 - 1	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-239-01-S-CL	N/A	OA 2	East Sidewall, 400 ft distance	0 - 1	VOCs	Co-located
	P2IM-SM-240-10-S-S	N/A	OA 1 & OA 2	East Sidewall, 450 ft distance	9 - 10	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-241-05-S-S	N/A	OA 1 & OA 2	East Sidewall, 450 ft distance	4 - 5	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-242-01-S-S	N/A	OA 1	East Sidewall, 450 ft distance	0 - 1	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-243-10-S-S	N/A	OA 1	East Sidewall, 500 ft distance	9 - 10	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-244-05-S-S	N/A	OA 1	East Sidewall, 500 ft distance	4 - 5	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-245-01-S-S	N/A	OA 1	East Sidewall, 500 ft distance	0 - 1	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-245-01-S-CL	N/A	OA 1	East Sidewall, 500 ft distance	0 - 1	VOCs	Co-located
	P2IM-SM-255-10-S-S	N/A	OA 2	East Sidewall, 250 ft distance	9 - 10	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-255.01-10-S-S	N/A	OA 2	East Sidewall, 250 ft distance	10	VOCs & TPH	
	P2IM-SM-256-05-S-S	N/A	OA 2	East Sidewall, 250 ft distance	4 - 5	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-256.01-05-S-S	N/A	OA 2	East Sidewall, 250 ft distance	5	VOCs & TPH	
	P2IM-SM-257-01-S-S	N/A	OA 2	East Sidewall, 250 ft distance	0 - 1	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-257.01-01-S-S	N/A	OA 2	East Sidewall, 250 ft distance	1	VOCs & TPH	
	P2IM-SM-257.01-01-S-CL	N/A	OA 2	East Sidewall, 250 ft distance	1	VOCs	Co-located
	P2IM-SM-258-10-S-S	N/A	OA 2	East Sidewall, 300 ft distance	9 - 10	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-259-05-S-S	N/A	OA 2	East Sidewall, 300 ft distance	4 - 5	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-260-01-S-S	N/A	OA 2	East Sidewall, 300 ft distance	0 - 1	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-261-10-S-S	N/A	OA 1 & OA 2	East Sidewall, 350 ft distance	9 - 10	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-261-10-S-CL	N/A	OA 1 & OA 2	East Sidewall, 350 ft distance	9 - 10	VOCs	Co-located
	P2IM-SM-262-05-S-S	N/A	OA 1 & OA 2	East Sidewall, 350 ft distance	4 - 5	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	P2IM-SM-263-01-S-S	N/A	OA 1 & OA 2	East Sidewall, 350 ft distance	0 - 1	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	45 Total Supplemental Samples						
CONFIRMATION SOIL SAMPLES - (no samples planned)							
	P2IM-SM-163.01-10-S-C	N/A		N Sidewall	10	PCBs	
	P2IM-SM-164.01-06-S-C	N/A		N Sidewall	6	PCBs	
	P2IM-SM-165.01-01-S-C	N/A		N Sidewall	1	PCBs	
	P2IM-SM-166.01-10-S-C	N/A	OA 14	N Sidewall	10	PAHs & PCBs	
	P2IM-SM-167.01-06-S-C	N/A	OA 14	N Sidewall	6	PAHs & PCBs	
	P2IM-SM-168.01-01-S-C	N/A	OA 14	N Sidewall	1	PAHs & PCBs	
	P2IM-SM-196-10-S-C	N/A	OA 14	N Sidewall	10	PAHs & PCBs	
	P2IM-SM-197-06-S-C	N/A	OA 14	N Sidewall	6	PAHs & PCBs	
	P2IM-SM-198-01-S-C	N/A	OA 14	N Sidewall	1	PAHs & PCBs	
	9 Total Confirmation Samples						

Table 3: Supplemental and Confirmation Soil Sampling Summary
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Excavation Location	New Sample No.	Boring No.	RCRA Unit	New Sample Location	Approx. Sample Depth (ft - bgs)	Analytes	Comments
2-66 AREA SHEETPILE CONTAINMENT STRUCTURE							
SUPPLEMENTAL SAMPLES - (no samples planned)							
	N/A	N/A					
CONFIRMATION SOIL SAMPLES - (no samples planned)							
	P2IM-SM-251-05-S-S	N/A	OA 1	S of S Wall, W End	5	VOCs, Metals, PCBs, TPH	
	P2IM-SM-252-01-S-S	N/A	OA 1	S of S Wall, W End	1	VOCs, Metals, PCBs, TPH	
	P2IM-SM-253-05-S-S	N/A	OA 1	S of S Wall, E End	5	VOCs, Metals, PCBs, TPH	
	P2IM-SM-254-01-S-S	N/A	OA 1	S of S Wall, E End	1	VOCs, Metals, PCBs, TPH	
	P2IM-SM-264-05-S-S	N/A	OA 1 & OA 2	E of E Wall, SE Corner	5	VOCs, Metals, PCBs, TPH	
	P2IM-SM-264-05-S-CL	N/A	OA 1 & OA 2	E of E Wall, SE Corner	5	VOCs	Co-located
	P2IM-SM-265-01-S-S	N/A	OA 1 & OA 2	E of E Wall, SE Corner	1	VOCs, Metals, PCBs, TPH	
	7 Total Confirmation Samples						
OLD UTILITY REMOVALS, INCLUDING OA 23.1 & 23.2 (X & Y STORM LINES)							
SUPPLEMENTAL SAMPLES - (no samples planned)							
	N/A	N/A					
CONFIRMATION SOIL SAMPLES - (no samples planned)							
	N/A	N/A					
NEW UTILITIES AND STORMWATER INSTALLATIONS							
SUPPLEMENTAL SAMPLES - (no samples planned)							
	N/A	N/A					
CONFIRMATION SOIL SAMPLES - (no samples planned)							
	N/A	N/A					
BORING 2-60-DP-17 NEAR BUILDING 2-44							
SUPPLEMENTAL SAMPLES - (1 sample planned)							
	P2IM-SM-182-01-S-S	2-60-DP-17		S Sidewall	1	VOCs, metals, PCBs, & TPH (gasoline range)	
	1 Total Supplemental Samples						
CONFIRMATION SOIL SAMPLES - (3 samples planned)							
	P2IM-SM-180-06-S-C	N/A		Excavation bottom	5	TPH (gasoline range)	
	P2IM-SM-181-2.5-S-C	N/A		W Sidewall	2.5	TPH (gasoline range)	
	P2IM-SM-183-2.5-S-C	N/A		E Sidewall	2.5	TPH (gasoline range)	
	3 Total Confirmation Samples						
BORING DP-4107 AT SWMU 2-41.31							
SUPPLEMENTAL SAMPLES - (2 samples planned)							
	P2IM-SM-130-12-S-S	DP-4107	SWMU 2-41.31	W Sidewall	12	VOCs, PAHs, metals, PCBs, & TPH	
	P2IM-SM-130.01-12-S-S	P2IM-SM-130	SWMU 2-41.31	W Sidewall	12	VOCs, metals, & TPH	
	P2IM-SM-131-06-S-S	DP-4107	SWMU 2-41.31	W Sidewall	5 - 6	VOCs, PAHs, metals, PCBs, & TPH	
	P2IM-SM-131.01-06-S-S	P2IM-SM-131	SWMU 2-41.31	W Sidewall	6	VOCs, metals, & TPH	
	4 Total Supplemental Samples						

Table 3: Supplemental and Confirmation Soil Sampling Summary
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Excavation Location	New Sample No.	Boring No.	RCRA Unit	New Sample Location	Approx. Sample Depth (ft - bgs)	Analytes	Comments
CONFIRMATION SOIL SAMPLES - (2 samples planned)							
	P2IM-SM-132-06-S-C	N/A	SWMU 2-41.31	S Sidewall	6	TPH (diesel & motor oil range)	
	P2IM-SM-132.01-06-S-C	N/A	SWMU 2-41.31	S Sidewall	6	TPH (diesel, motor oil, & Bunker C range)	
	P2IM-SM-133-06-S-C	N/A	SWMU 2-41.31	E Sidewall	6	TPH (diesel & motor oil range)	
	P2IM-SM-133.01-06-S-C	N/A	SWMU 2-41.31	E Sidewall	6	TPH (diesel, motor oil, & Bunker C range)	
	4 Total Confirmation Samples						
2-31 FOUNDATION FOR NEW WALL - EXCAVATION AT PL2-510A - EXCAVATION CANCELLED							
SUPPLEMENTAL SAMPLES - (1 sample planned)							
	N/A	PL2-501A		Excavation - nearest sidewall	8	VOCs & TPH (diesel, motor oil, gasoline range)	Cancelled - no access
	0 Total Supplemental Samples						
CONFIRMATION SOIL SAMPLES - (3 samples planned)							
	N/A	N/A		Opposite sidewalls of excav	6	VOCs	Cancelled - no access
	N/A	N/A		Opposite sidewalls of excav	6	VOCs	Cancelled - no access
	N/A	N/A		Excavation bottom	11	VOCs	Cancelled - no access
	0 Total Confirmation Samples						
BORING SB-04107 AT AOC 2-41.32							
SUPPLEMENTAL SAMPLES - (2 samples planned)							
	P2IM-SM-190-08-S-S	SB-04107		S Sidewall	1.5	VOCs & metals	
	P2IM-SM-191-1.5-S-S	SB-04107		S Sidewall	8	VOCs & metals	
	2 Total Supplemental Samples						
CONFIRMATION SOIL SAMPLES - (3 samples planned)							
	P2IM-SM-189-11-S-C	N/A		Excavation bottom	11	VOCs	
	P2IM-SM-192-06-S-C	N/A	AOC 2-41.32	W Sidewall	6	VOCs	
	P2IM-SM-193-06-S-C	N/A	AOC 2-41.32	N Sidewall	6	VOCs	
	3 Total Confirmation Samples						
BORING SB-04105 AT SWMU 2-41.33							
SUPPLEMENTAL SAMPLES - (2 samples planned)							
	P2IM-SM-121-12-S-S	SB-04105	SWMU 2-41.33	S Bottom	12	VOCs & inorganics (& chromium (VI) & cyanide)	
	P2IM-SM-121.01-12-S-S	P2IM-SM-121	SWMU 2-41.33	S Sidewall	12	VOCs & chromium VI	
	P2IM-SM-121.02-12-S-S	P2IM-SM-121.01	SWMU 2-41.33	S Sidewall	12	VOCs	
	P2IM-SM-122-10.5-S-S	SB-04105	SWMU 2-41.33	S Sidewall	10.5	VOCs & inorganics (& chromium (VI) & cyanide)	
	P2IM-SM-122.01-10.5-S-S	P2IM-SM-122	SWMU 2-41.33	S Sidewall	10.5	VOCs & chromium VI	
	P2IM-SM-122.02-10.5-S-S	P2IM-SM-122.01	SWMU 2-41.33	S Sidewall	10.5	VOCs	
	6 Total Supplemental Samples						
CONFIRMATION SOIL SAMPLES - (2 samples planned)							
	P2IM-SM-119-06-S-C	N/A	SWMU 2-41.33	W Sidewall	6	inorganics (& chromium (VI))	
	P2IM-SM-119.01-06-S-C	N/A	SWMU 2-41.33	W Sidewall	6	VOCs & chromium VI	
	P2IM-SM-120-06-S-C	N/A	SWMU 2-41.33	E Sidewall	6	inorganics (& chromium (VI))	
	P2IM-SM-120.01-06-S-C	N/A	SWMU 2-41.33	E Sidewall	6	VOCs & chromium VI	
	P2IM-SM-120.02-06-S-C	N/A	SWMU 2-41.33	E Sidewall	6	VOCs	
	5 Total Confirmation Samples						

Table 3: Supplemental and Confirmation Soil Sampling Summary
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Excavation Location	New Sample No.	Boring No.	RCRA Unit	New Sample Location	Approx. Sample Depth (ft - bgs)	Analytes	Comments
SWMU 2-41.33							
POTENTIALLY IMPACTED SOIL - (no samples planned)							
	P2IM-SM-017-006-S-P	N/A	SWMU 2-41.33	Excavation bottom	6	VOCs & metals	
	1 Total Potentially impacted Sample						
SUPPLEMENTAL SAMPLES - (no samples planned)							
	P2IM-SM-112-06-S-S	P2IM-SM-017	SWMU 2-41.33	E Sidewall	6	VOCs & metals	
	1 Total Supplemental Samples						
CONFIRMATION SOIL SAMPLES - (no samples planned)							
	P2IM-SM-109-11-S-C	N/A	SWMU 2-41.33	Excavation bottom - center	11	VOCs & metals	
	P2IM-SM-110-06-S-C	N/A	SWMU 2-41.33	N Sidewall	6	VOCs & metals	
	P2IM-SM-111-06-S-C	N/A	SWMU 2-41.33	S Sidewall	6	VOCs & metals	
	3 Total Confirmation Samples						
SUMPS SPL-041-138 TO SPL-041-152							
POTENTIALLY IMPACTED SOIL - (no samples planned)							
	P2IM-SM-018-1.5-S-P	N/A		Near surface	1.5	VOCs, SVOCs, PAHs, Metals & Cyanide, PCBs, TPH	
	1 Total Potentially impacted Sample						
BORING 2-40-DP-013 AT SUMP SPL-044-029							
SUPPLEMENTAL SAMPLES - (3 samples planned)							
	P2IM-SM-019-01-S-S	2-40-DP-013		SE Corner	0 - 1	VOCs, SVOCs, PAHs, metals, PCBs, & TPH	
	P2IM-SM-020-04-S-S	2-40-DP-013		SE Corner	4 - 5	VOCs, SVOCs, PAHs, metals, PCBs, & TPH	
	P2IM-SM-021-11-S-S	2-40-DP-013		SE Corner	9 - 10	VOCs, SVOCs, PAHs, metals, PCBs, & TPH	
	P2IM-SM-021-11-S-CL	2-40-DP-013		SE Corner	9 - 10	VOCS	Co-located
	4 Total Supplemental Samples						
CONFIRMATION SOIL SAMPLES - (no samples planned)							
	N/A	N/A					
BORING 2-60-DP-25 AT THE 2-66 SLAB							
SUPPLEMENTAL SAMPLES - (3 samples planned)							
	P2IM-SM-204-10-S-S	2-60-DP-25		E Sidewall	10	VOCs & metals	
	P2IM-SM-204-10-S-CL	2-60-DP-25		E Sidewall	10	VOCs & metals	Co-located
	P2IM-SM-205-05-S-S	2-60-DP-25		E Sidewall	5	VOCs & metals	
	P2IM-SM-206-01-S-S	2-60-DP-25		E Sidewall	1	VOCs & metals	
	4 Total Supplemental Samples						
CONFIRMATION SOIL SAMPLES - (no samples planned)							
	P2IM-SM-205.01-10-S-C	N/A		E Sidewall	10	VOCs	
	P2IM-SM-205.02-05-S-C	N/A		E Sidewall	5	VOCs	
	P2IM-SM-205.02-05-S-CL	N/A		E Sidewall	5	VOCs	Co-located
	3 Total Confirmation Samples						

Table 3: Supplemental and Confirmation Soil Sampling Summary
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Excavation Location	New Sample No.	Boring No.	RCRA Unit	New Sample Location	Approx. Sample Depth (ft - bgs)	Analytes	Comments
WESTERN PORTION OF BUILDING 2-31							
SUPPLEMENTAL SAMPLES - (9 samples planned)							
	P2IM-SM-089-10-S-S	2-31-DP-40		S Sidewall	9 - 10	VOCs, SVOCs, PAHs, & metals	
	P2IM-SM-090-05-S-S	2-31-DP-40		S Sidewall	4 - 5	VOCs, SVOCs, PAHs, & metals	
	P2IM-SM-091-01-S-S	2-31-DP-40		S Sidewall	0 - 1	VOCs, SVOCs, PAHs, & metals	
	P2IM-SM-092-10-S-S	2-31-DP-38		SW Sidewall	9 - 10	VOCs, SVOCs, PAHs, Metals, & PCBs	
	P2IM-SM-093-05-S-S	2-31-DP-38		SW Sidewall	4 - 5	VOCs, SVOCs, PAHs, Metals, & PCBs	
	P2IM-SM-094-01-S-S	2-31-DP-38		SW Sidewall	0 - 1	VOCs, SVOCs, PAHs, Metals, & PCBs	
	P2IM-SM-098-10-S-S	2-31-DP-07		N Sidewall	9 - 10	VOCs & inorganics	
	P2IM-SM-099-05-S-S	2-31-DP-07		N Sidewall	4 - 5	VOCs & inorganics	
	P2IM-SM-100-01-S-S	2-31-DP-07		N Sidewall	0 - 1	VOCs & inorganics	
	9 Total Supplemental Samples						
CONFIRMATION SOIL SAMPLES - (3 samples planned)							
	P2IM-SM-074-01-S-WC	N/A		Test Pit 1, NE Area of Excav	1	VOCs & metals	
	P2IM-SM-075-05-S-WC	N/A		Test Pit 1, NE Area of Excav	5	VOCs & metals	
	P2IM-SM-076-11-S-WC	N/A		Test Pit 1, NE Area of Excav	11	VOCs & metals	
	P2IM-SM-077-01-S-WC	N/A		Test Pit 2, W Area of Excav	1	VOCs & metals	
	P2IM-SM-078-05-S-WC	N/A		Test Pit 2, W Area of Excav	5	VOCs & metals	
	P2IM-SM-079-11-S-WC	N/A		Test Pit 2, W Area of Excav	11	VOCs & metals	
	P2IM-SM-080-01-S-WC	N/A		Test Pit 3, SE Area of Excav	1	VOCs & metals	
	P2IM-SM-081-05-S-WC	N/A		Test Pit 3, SE Area of Excav	5	VOCs & metals	
	P2IM-SM-082-11-S-WC	N/A		Test Pit 3, SE Area of Excav	11	VOCs & metals	
	P2IM-SM-083-01-S-WC	N/A		Test Pit 4, SW Area of Excav	1	VOCs & metals	
	P2IM-SM-084-05-S-WC	N/A		Test Pit 4, SW Area of Excav	5	VOCs & metals	
	P2IM-SM-085-11-S-WC	N/A		Test Pit 4, SW Area of Excav	11	VOCs & metals	
	P2IM-SM-086-01-S-WC	N/A		Test Pit 4, S Central Area of Excav	1	VOCs & metals	
	P2IM-SM-087-05-S-WC	N/A		Test Pit 4, S Central Area of Excav	5	VOCs & metals	
	P2IM-SM-088-11-S-WC	N/A		Test Pit 4, S Central Area of Excav	11	VOCs & metals	
	P2IM-SM-095.01-11-S-C	N/A		Near P2IM-SM-095, Bottom	11	Metals	
	P2IM-SM-095.02-10-S-C	N/A		Near P2IM-SM-095, E Sidewall	10	Metals	
	P2IM-SM-095.03-05-S-C	N/A		Near P2IM-SM-095, E Sidewall	5	Metals	
	P2IM-SM-095.04-10-S-C	N/A		Near P2IM-SM-095, S Sidewall	10	Metals	
	P2IM-SM-095.05-05-S-C	N/A		Near P2IM-SM-095, S Sidewall	5	Metals	
	P2IM-SM-096-11-S-C	Near 2-31-DP-07		Excavation bottom	11	VOCs	
	P2IM-SM-097-06-S-C	Near 2-31-DP-07		E Sidewall of 1st Excav	6	VOCs	
	P2IM-SM-097.01-11-S-C	N/A		Near P2IM-SM-097, NE Area of Excav	11	VOCs	
	P2IM-SM-097.02-10-S-C	N/A		Near P2IM-SM-097, NE Area of Excav	10	VOCs	
	P2IM-SM-097.03-05-S-C	N/A		Near P2IM-SM-097, NE Area of Excav	5	VOCs	
	P2IM-SM-097.04-01-S-C	N/A		Near P2IM-SM-097, NE Area of Excav	1	VOCs	
	P2IM-SM-097.05-10-S-C	N/A		Near P2IM-SM-097, NE Area of Excav	10	VOCs	
	P2IM-SM-097.06-05-S-C	N/A		Near P2IM-SM-097, NE Area of Excav	5	VOCs	
	P2IM-SM-097.07-01-S-C	N/A		Near P2IM-SM-097, NE Area of Excav	1	VOCs	
	P2IM-SM-097.08-10-S-C	N/A		Near P2IM-SM-097, NE Area of Excav	10	VOCs	
	P2IM-SM-097.09-05-S-C	N/A		Near P2IM-SM-097, NE Area of Excav	5	VOCs	
	P2IM-SM-097.10-01-S-C	N/A		Near P2IM-SM-097, NE Area of Excav	1	VOCs	
	P2IM-SM-101-06-S-C	Near 2-31-DP-07		W Sidewall of 1st Excav	6	VOCs	

Table 3: Supplemental and Confirmation Soil Sampling Summary
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Excavation Location	New Sample No.	Boring No.	RCRA Unit	New Sample Location	Approx. Sample Depth (ft - bgs)	Analytes	Comments
	P2IM-SM-101.01-11-S-C	N/A		Near P2IM-SM-101, Bottom	11	VOCs	
	P2IM-SM-101.02-10-S-C	N/A		Near P2IM-SM-101, N Sidewall	10	VOCs	
	P2IM-SM-101.03-05-S-C	N/A		Near P2IM-SM-101, N Sidewall	5	VOCs	
	P2IM-SM-101.05-10-S-C	N/A		Near P2IM-SM-101, W Sidewall	10	VOCs	
	P2IM-SM-101.06-05-S-C	N/A		Near P2IM-SM-101, W Sidewall	5	VOCs	
	P2IM-SM-101.07-03-S-C	N/A		Near P2IM-SM-101, W Sidewall	1	VOCs	
	P2IM-SM-230-03-S-C	N/A		N Sidewall	3	VOCs	
	P2IM-SM-231-10-S-C	N/A		N Sidewall	10	VOCs	
	P2IM-SM-232-05-S-C	N/A		N Sidewall	5	VOCs	
	P2IM-SM-233-01-S-C	N/A		N Sidewall	1	VOCs	
	P2IM-SM-233-01-S-CL	N/A		N Sidewall	1	VOCs	Co-located
	P2IM-SM-234-10-S-S	N/A		N Sidewall	10	Metals	
	P2IM-SM-235-05-S-S	N/A		N Sidewall	5	Metals	
	P2IM-SM-236-01-S-S	N/A		N Sidewall	1	Metals	
	P2IM-SM-246-10-S-C	N/A		NW Sidewall	10	Metals	
	P2IM-SM-247-05-S-C	N/A		NW Sidewall	5	Metals	
	P2IM-SM-248-01-S-C	N/A		NW Sidewall	1	Metals	
	50 Total Confirmation Samples						
POTENTIALLY IMPACTED SOIL SAMPLES - (no samples planned)							
	P2IM-SM-095-08-S-P	N/A		N Central Area of Excav	8	VOCs, SVOCs, PAHs, metals, PCBs, TPH	
	1 Total Potentially impacted Sample						
BORING 2-31-DP-34 IN THE WESTERN PORTION OF BUILDING 2-31							
SUPPLEMENTAL SAMPLES - (3 samples planned)							
	P2IM-SM-139-10-S-S	2-31-DP-34		E Sidewall	9 - 10	VOCs & metals	
	P2IM-SM-140-05-S-S	2-31-DP-34		E Sidewall	4 - 5	VOCs & metals	
	P2IM-SM-141-01-S-S	2-31-DP-34		E Sidewall	0 - 1	VOCs & metals	
	3 Total Supplemental Samples						
CONFIRMATION SOIL SAMPLES - (3 samples planned)							
	P2IM-SM-138-11-S-C	N/A		Excavation bottom	11	VOCs & metals	
	P2IM-SM-142-06-S-C	N/A		N Sidewall	6	VOCs & metals	
	P2IM-SM-143-06-S-C	N/A		S Sidewall	6	VOCs & metals	
	3 Total Confirmation Samples						
BORING 2-31-DP-36 IN THE WESTERN PORTION OF BUILDING 2-31							
SUPPLEMENTAL SAMPLES - (3 samples planned)							
	P2IM-SM-151-10-S-S	2-31-DP-36		S Sidewall	9 - 10	VOCs, metals & PCBs	
	P2IM-SM-152-05-S-S	2-31-DP-36		S Sidewall	4 - 5	Metals & PCBs	
	P2IM-SM-152.01-05-S-S	P2IM-SM-152		S Sidewall	5	VOCs	
	P2IM-SM-153-01-S-S	2-31-DP-36		S Sidewall	0 - 1	Metals & PCBs	
	P2IM-SM-153.01-01-S-S	P2IM-SM-153		S Sidewall	1	VOCs	
	5 Total Supplemental Samples						

Table 3: Supplemental and Confirmation Soil Sampling Summary
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Excavation Location	New Sample No.	Boring No.	RCRA Unit	New Sample Location	Approx. Sample Depth (ft - bgs)	Analytes	Comments
CONFIRMATION SOIL SAMPLES - (3 samples planned)							
	P2IM-SM-149-11-S-C	N/A		Excavation bottom	11	VOCs	
	P2IM-SM-150-06-S-C	N/A		E Sidewall	6	VOCs	
	P2IM-SM-151.01-11-S-C	N/A		Bottom	11	Metals	
	P2IM-SM-151.02-10-S-C	N/A		W Sidewall	10	Metals	
	P2IM-SM-151.03-05-S-C	N/A		W Sidewall	5	Metals	
	P2IM-SM-151.04-10-S-C	N/A		N Sidewall	10	Metals	
	P2IM-SM-151.05-05-S-C	N/A		N Sidewall	5	Metals	
	P2IM-SM-154-06-S-C	N/A		W Sidewall	6	VOCs	
	8 Total Confirmation Samples						
BORING DP-3101 IN THE WESTERN PORTION OF BUILDING Building 2-31							
SUPPLEMENTAL SAMPLES - (2 samples planned)							
	P2IM-SM-145-10.5-S-S	DP-3101		S Sidewall	10 - 10.5	VOCs, metals & PCBs	
	P2IM-SM-146-5.9-S-S	DP-3101		S Sidewall	5.5 - 5.9	VOCs, metals & PCBs	
	2 Total Supplemental Samples						
CONFIRMATION SOIL SAMPLES - (3 samples planned)							
	P2IM-SM-144-11-S-C	N/A		Excavation bottom	11	VOCs	
	P2IM-SM-147-06-S-C	N/A		E Sidewall	6	VOCs	
	P2IM-SM-148-06-S-C	N/A		W Sidewall	6	VOCs	
	3 Total Confirmation Samples						
BORING SB-04136 / P2IM-SM-005 (CIS/DCE) IN THE NORTH 1/3 STORMWATER AREA							
POTENTIALLY IMPACTED SOIL - (no samples planned)							
	P2IM-SM-005-011-S-P	SB-04136		Excavation bottom	11	VOCs, SVOCs, PAHs, metals, PCBs, & TPH	
	P2IM-SM-036-11-S-P	N/A		SW Bottom	11	VOCs	
	P2IM-SM-037-11-S-P	N/A		SE Bottom	11	VOCs	
	3 Total Potentially impacted Samples						
CONFIRMATION SOIL SAMPLES - (no samples planned)							
	P2IM-SM-029-11-S-C	N/A		N Sidewall	11	VOCs	
	P2IM-SM-030-11-S-C	N/A		W Sidewall	11	VOCs	
	P2IM-SM-056-01-S-C	N/A		Test Pit 1, SE of Excavation	1	VOCs	
	P2IM-SM-057-05-S-C	N/A		Test Pit 1, SE of Excavation	5	VOCs	
	P2IM-SM-058-11-S-C	N/A		Test Pit 1, SE of Excavation	11	VOCs	
	P2IM-SM-059-01-S-C	N/A		Test Pit 2, NE of Excavation	1	VOCs	
	P2IM-SM-060-05-S-C	N/A		Test Pit 2, NE of Excavation	5	VOCs	
	P2IM-SM-061-11-S-C	N/A		Test Pit 2, NE of Excavation	11	VOCs	
	P2IM-SM-062-01-S-C	N/A		Test Pit 3, N of Excavation	1	VOCs	
	P2IM-SM-063-05-S-C	N/A		Test Pit 3, N of Excavation	5	VOCs	
	P2IM-SM-064-11-S-C	N/A		Test Pit 3, N of Excavation	11	VOCs	
	P2IM-SM-064-11-S-CL	N/A		Test Pit 3, N of Excavation	11	VOCs	Co-located
	P2IM-SM-065-01-S-C	N/A		Test Pit 4, W of Excavation	1	VOCs	
	P2IM-SM-066-05-S-C	N/A		Test Pit 4, W of Excavation	5	VOCs	
	P2IM-SM-067-11-S-C	N/A		Test Pit 4, W of Excavation	11	VOCs	
	P2IM-SM-068-01-S-C	N/A		Test Pit 5, SW of Excavation	1	VOCs	
	P2IM-SM-069-05-S-C	N/A		Test Pit 5, SW of Excavation	5	VOCs	
	P2IM-SM-070-11-S-C	N/A		Test Pit 5, SW of Excavation	11	VOCs	

Table 3: Supplemental and Confirmation Soil Sampling Summary
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Excavation Location	New Sample No.	Boring No.	RCRA Unit	New Sample Location	Approx. Sample Depth (ft - bgs)	Analytes	Comments
	P2IM-SM-071-01-S-C	N/A		Test Pit 6, S of Excavation	1	VOCs	
	P2IM-SM-072-05-S-C	N/A		Test Pit 6, S of Excavation	5	VOCs	
	P2IM-SM-073-11-S-C	N/A		Test Pit 6, S of Excavation	11	VOCs	
	21 Total Confirmation Samples						
MACHINE PIT IN SWMU 2-41.31, S OF NORTH 1/3 STORMWATER AREA							
POTENTIALLY IMPACTED SOIL - (no samples planned)							
	P2IM-SM-016-012-S-P	N/A		Excavation bottom	12	VOCs, SVOCs, PAHs, metals, PCBs, & TPH	
	1 Total Potentially impacted Samples						
BORING 2-40-DP-056							
SUPPLEMENTAL SAMPLES - (no samples planned)							
	P2IM-SM-103-10-S-S	2-40-DP-056		W Sidewall	10	VOCs, SVOCs, PAHs, metals, chromium VI, cyanide	
	P2IM-SM-104-05-S-S	2-40-DP-056		W Sidewall	5	VOCs, SVOCs, PAHs, metals, chromium VI, cyanide	
	P2IM-SM-105-01-S-S	2-40-DP-056		W Sidewall	1	VOCs, SVOCs, PAHs, metals, chromium VI, cyanide	
	3 Total Supplemental Samples						
CONFIRMATION SOIL SAMPLES - (no samples planned)							
	P2IM-SM-102-11-S-C	N/A		Bottom	11	VOCs	
	P2IM-SM-106-06-S-C	N/A		S Sidewall	6	VOCs	
	P2IM-SM-107-06-S-C	N/A		N Sidewall	6	VOCs	
	P2IM-SM-108-06-S-CL	N/A		N Sidewall	6	VOCs	Co-located w/ 107
	P2IM-SM-155-11-S-C	N/A	SWMU 2-41.33	Bottom	11	VOCs	
	P2IM-SM-156-06-S-C	N/A	SWMU 2-41.33	W Sidewall	6	VOCs	
	P2IM-SM-157-06-S-C	N/A	SWMU 2-41.33	N Sidewall	6	VOCs	Replaces P2IM-SM-017
	P2IM-SM-158-06-S-C	N/A		E Sidewall	6	VOCs	
	8 Total Confirmation Samples						
BORING IA1-WC-01							
SUPPLEMENTAL SAMPLES - (no samples planned)							
	P2IM-SM-114-10-S-S	IA1-WC-01		S Sidewall	10	VOCs	
	P2IM-SM-115-06-S-S	IA1-WC-01		S Sidewall	6	VOCs	
	P2IM-SM-116-02-S-S	IA1-WC-01		S Sidewall	2	VOCs	
	3 Total Supplemental Samples						
CONFIRMATION SOIL SAMPLES - (no samples planned)							
	P2IM-SM-113-11-S-C	N/A		Center Bottom	11	VOCs	
	P2IM-SM-117-06-S-C	N/A		E Sidewall	6	VOCs	
	P2IM-SM-118-06-S-C	N/A		W Sidewall	6	VOCs	
	P2IM-SM-159-11-S-C	N/A		Bottom	11	VOCs	
	P2IM-SM-160-06-S-C	N/A		W Sidewall	6	VOCs	
	P2IM-SM-160-06-S-CL	N/A		W Sidewall	6	VOCs	Co-located
	P2IM-SM-161-06-S-C	N/A		S Sidewall	6	VOCs	
	P2IM-SM-162-06-S-C	N/A		N Sidewall	6	VOCs	
	8 Total Confirmation Samples						

Table 3: Supplemental and Confirmation Soil Sampling Summary
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Excavation Location	New Sample No.	Boring No.	RCRA Unit	New Sample Location	Approx. Sample Depth (ft - bgs)	Analytes	Comments
UST-1 (UPL-811)							
CONFIRMATION SAMPLES - (no samples planned)							
	P2IM-SM-134-11-S-C	N/A		S Sidewall	11	TPH	
	P2IM-SM-135-11-S-C	N/A		W Sidewall	11	TPH	
	P2IM-SM-136-11-S-C	N/A		N Sidewall	11	TPH	
	P2IM-SM-137-11-S-C	N/A		E Sidewall	11	TPH	
	4 Total Confirmation Samples						
BORING DP-4408							
SUPPLEMENTAL SAMPLES - (no samples planned)							
	P2IM-SM-176-11-S-S	DP-4408		S Sidewall	11	VOCs, SVOCs, PAHs, metals, cyanide, TPH	
	P2IM-SM-177-06-S-S	DP-4408		S Sidewall	6	VOCs, SVOCs, PAHs, metals, cyanide, TPH	
	2 Total Supplemental Samples						
CONFIRMATION SAMPLES - (no samples planned)							
	P2IM-SM-175-11-S-C	N/A		Bottom	11	VOCs	
	P2IM-SM-178-06-S-C	N/A		W Sidewall	6	VOCs	
	P2IM-SM-179-06-S-C	N/A		E Sidewall	6	VOCs	
	3 Total Confirmation Samples						
2-41 LIGHT POLE BASE							
CONFIRMATION SAMPLES - (no samples planned)							
	P2IM-SM-184-11-S-C	N/A		Center bottom	11	TPH	
	P2IM-SM-185-06-S-C	N/A		E sidewall	6	TPH	
	P2IM-SM-186-06-S-C	N/A		W Sidewall	6	TPH	
	P2IM-SM-187-06-S-C	N/A		N Sidewall	6	TPH	
	P2IM-SM-188-06-S-C	N/A		S Sidewall	6	TPH	
	P2IM-SM-194-07-S-C	N/A		W Bottom	7	TPH	
	P2IM-SM-195-07-S-C	N/A		E Bottom	7	TPH	
	7 Total Confirmation Samples						
UST PL-38							
CONFIRMATION SAMPLES - (no samples planned)							
	P2IM-SM-199-10-S-C	N/A		W Bottom	10	SVOCs, PCBs, TPH	
	P2IM-SM-200-10-S-C	N/A		E Bottom	10	SVOCs, PCBs, TPH	
	2 Total Confirmation Samples						
SUMP U44-112							
CONFIRMATION SAMPLES - (no samples planned)							
	P2IM-SM-210-06-S-C	N/A		N Sidewall	6	VOCs, SVOCs, PAHs, metals, PCBs, TPH	
	P2IM-SM-211-06-S-C	N/A		E Sidewall	6	VOCs, SVOCs, PAHs, metals, PCBs, TPH	
	P2IM-SM-212-06-S-C	N/A		W Sidewall	6	VOCs, SVOCs, PAHs, metals, PCBs, TPH	
	P2IM-SM-213-11-S-C	N/A		Bottom	11	VOCs, SVOCs, PAHs, metals, PCBs, TPH	
	4 Total Confirmation Samples						

Table 3: Supplemental and Confirmation Soil Sampling Summary
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Excavation Location	New Sample No.	Boring No.	RCRA Unit	New Sample Location	Approx. Sample Depth (ft - bgs)	Analytes	Comments
BORING NS-02-31							
CONFIRMATION SAMPLES - (no samples planned)							
	P2IM-SM-249-05-S-C	N/A		E Sidewall	5	Metals	
	1 Total Confirmation Samples						
BORING NS-03-31							
CONFIRMATION SAMPLES - (no samples planned)							
	P2IM-SM-250-05-S-C	N/A		W Sidewall	5	Metals	
	1 Total Confirmation Samples						
BORING SB-06304							
SUPPLEMENTAL SAMPLES - (no samples planned)							
	P2IM-SM-266-10-S-S	SB-06304		E Sidewall	10	Metals	
	P2IM-SM-267-05-S-S	SB-06304		E Sidewall	5	Metals	
	P2IM-SM-268-01-S-S	SB-06304		E Sidewall	1	Metals	
	P2IM-SM-269-10-S-S	2-60-DP-23		W Sidewall	10	Metals	
	P2IM-SM-270-05-S-S	2-60-DP-23		W Sidewall	5	Metals	
	P2IM-SM-271-01-S-S	2-60-DP-23		W Sidewall	1	Metals	
	6 Total Supplemental Samples						

Table 4: Supplemental and Confirmation Soil Sample Status
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Sample No.	Sample Date	Depth (ft)	Data Package	Area	Risk Mgt Area	Easting	Northing	Reason for Sample	Location / Purpose	
									Location or Sample Replaced	New Sample Status
P2IM-SM-01-001-S-S	5/19/2011	1.0	SX63	2-40s	Stormwater	1274884.61	196869.81	Supplemental	SB-04114 @ 1' (SWMU 2-41.36 Underflow Flume), S Sidewall	Removed by subsequent excavation
P2IM-SM-02-2.0-S-C	5/19/2011	2.0	SX63	2-40s	Stormwater	1274885.03	196875.50	Confirmation	SB-04114, E Sidewall (SWMU 2-41.36)	Removed by subsequent excavation
P2IM-SM-03-2.0-S-C	5/19/2011	2.0	SX63	2-40s	Stormwater	1274874.98	196864.27	Confirmation	SB-04114, W Sidewall (SWMU 2-41.36)	Removed by subsequent excavation
P2IM-SM-04-4.5-S-C	5/19/2011	4.5	SX63	2-40s	Stormwater	1274882.01	196872.16	Confirmation	SB-04114, Bottom (SWMU 2-41.36)	Removed by subsequent excavation
P2IM-SM-05-011-S-P	5/25/2011	11.0	SY42	2-40s	Stormwater	1274974.58	196750.65	Potentially Impacted Soil	Potentially Contaminated Soil near SB-04136	
P2IM-SM-06-6.0-S-P	5/31/2011	6.0	SY99	2-40s	Stormwater	1274857.67	196856.38	Potentially Impacted Soil	SB-04114 (SWMU 2-41.36), W End Underflow Flume	Removed by subsequent excavation
P2IM-SM-07-6.0-S-P	5/31/2011	6.0	SY99	2-40s	Stormwater	1274892.30	196892.52	Potentially Impacted Soil	SB-04114 (SWMU 2-41.36), E End Underflow Flume	Removed by subsequent excavation
P2IM-SM-08-001-S-S	6/7/2011	1.0	SZ85	2-40s	Stormwater	1275088.20	196702.48	Supplemental	2-40-DP-033 @ 1' (SWMU 2-41.30), E Sidewall	Removed by subsequent excavation
P2IM-SM-09-005-S-S	6/7/2011	5.0	SZ85	2-40s	Stormwater	1275088.20	196702.48	Supplemental	2-40-DP-033 @ 5' (SWMU 2-41.30), E Sidewall	Removed by subsequent excavation
P2IM-SM-09-005-S-CL	6/7/2011	5.0	SZ85	2-40s	Stormwater	1275088.20	196702.48	Co-Located (QC)	2-40-DP-033 @ 5' (SWMU 2-41.30), E Sidewall	Removed by subsequent excavation
P2IM-SM-10-010-S-S	6/7/2011	10.0	SZ85	2-40s	Stormwater	1275088.20	196702.48	Supplemental	2-40-DP-033 @ 10' (SWMU 2-41.30), E Sidewall	Removed by subsequent excavation
P2IM-SM-11-011-S-S	6/6/2011	11.0	SZ71	2-40s	Stormwater	1275084.87	196684.60	Supplemental	SB-04130 @ 11' (SWMU 2-41.30), S Sidewall	
P2IM-SM-12-11.5-S-S	6/6/2011	11.5	SZ71	2-40s	Stormwater	1275053.89	196702.51	Supplemental	SB-04131 @ 11.5' (SWMU 2-41.30), N Sidewall	
P2IM-SM-13-006-S-C	6/6/2011	6.0	SZ71	2-40s	Stormwater	1275057.24	196706.22	Confirmation	SWMU 2-41.30, N Sidewall	Removed by subsequent excavation
P2IM-SM-14-006-S-C	6/6/2011	6.0	SZ71	2-40s	Stormwater	1275081.52	196680.88	Confirmation	SWMU 2-41.30, S Sidewall	Removed by subsequent excavation
P2IM-SM-15-011-S-C	6/30/2011	11.0	TC60	2-40s	Stormwater	1275050.87	196699.17	Confirmation	SWMU 2-41.30, N Bottom	
P2IM-SM-16-012-S-P	6/9/2011	12.0	TA03	2-40s	Industrial	1275166.15	196669.08	Potentially Impacted Soil	Machine Pit (SWMU 2-41.31)	
P2IM-SM-17-006-S-P	6/13/2011	6.0	TA47	2-40s	Industrial	1274945.84	197010.07	Potentially Impacted Soil	SWMU 2-41.33	Removed by subsequent excavation
P2IM-SM-18-1.5-S-P	7/19/2011	1.5	TE67	2-40s	Industrial	1275067.20	197017.68	Potentially Impacted Soil	SPL-041-138, 139, 140	
P2IM-SM-019-01-S-S	11/1/2011	1.0	TU64	2-40s	Industrial	1275832.15	196868.00	Supplemental	2-40-DP-013 (SPL-044-029) @ 1', SE Corner	
P2IM-SM-020-04-S-S	11/1/2011	4.0	TU64	2-40s	Industrial	1275832.15	196868.00	Supplemental	2-40-DP-013 (SPL-044-029) @ 4', SE Corner	
P2IM-SM-021-11-S-S	11/1/2011	11.0	TU64	2-40s	Industrial	1275832.15	196868.00	Supplemental	2-40-DP-013 (SPL-044-029) @ 11', SE Corner	
P2IM-SM-021-11-S-CL	11/1/2011	11.0	TU64	2-40s	Industrial	1275832.15	196868.00	Co-Located (QC)	2-40-DP-013 (SPL-044-029) @ 11', SE Corner	
P2IM-SM-022-11-S-C	12/9/2011	11.0	UA66	2-40s	Stormwater	1274877.64	196870.00	Confirmation	SB-04114 (SWMU 2-41.36), Center Bottom	
P2IM-SM-023-06-S-C	12/9/2011	6.0	UA66	2-40s	Stormwater	1274871.37	196879.80	Confirmation	SB-04114 (SWMU 2-41.36), N Center Sidewall	Removed by subsequent excavation
P2IM-SM-024-11-S-C	12/9/2011	11.0	UA66	2-40s	Stormwater	1274858.04	196855.77	Confirmation	SB-04114 (SWMU 2-41.36), W Center Bottom	
P2IM-SM-025-06-S-C	12/9/2011	6.0	UA66	2-40s	Stormwater	1274853.17	196859.30	Confirmation	SB-04114 (SWMU 2-41.36), NW Sidewall	Removed by subsequent excavation
P2IM-SM-026-06-S-C	12/9/2011	6.0	UA66	2-40s	Stormwater	1274854.60	196852.05	Confirmation	SB-04114 (SWMU 2-41.36), W Sidewall	Removed by subsequent excavation
P2IM-SM-027-06-S-C	12/9/2011	6.0	UA66	2-40s	Stormwater	1274863.11	196849.43	Confirmation	SB-04114 (SWMU 2-41.36), SW Sidewall	Removed by subsequent excavation
P2IM-SM-028-06-S-C	12/9/2011	6.0	UA66	2-40s	Stormwater	1274881.62	196866.13	Confirmation	SB-04114 (SWMU 2-41.36), S Center Sidewall	Removed by subsequent excavation
P2IM-SM-029-11-S-C	12/12/2011	11.0	UA88	2-40s	Stormwater	1274968.36	196755.12	Confirmation	P2IM-SM-005, CIS/DCE Excav, N Sidewall	
P2IM-SM-030-11-S-C	12/12/2011	11.0	UA88	2-40s	Stormwater	1274968.69	196743.01	Confirmation	P2IM-SM-005, CIS/DCE Excav, W Sidewall	
P2IM-SM-031-11-S-C	12/13/2011	11.0	UB00	2-40s	Stormwater	1274891.32	196889.18	Confirmation	SB-04114 (SWMU 2-41.36), E Center Bottom	
P2IM-SM-032-11-S-C	12/13/2011	11.0	UB00	2-40s	Stormwater	1274896.79	196891.23	Confirmation	SB-04114 (SWMU 2-41.36), E Bottom	
P2IM-SM-033-06-S-C	12/13/2011	6.0	UB00	2-40s	Stormwater	1274891.75	196896.86	Confirmation	SB-04114 (SWMU 2-41.36), NE Sidewall	Removed by subsequent excavation
P2IM-SM-034-06-S-C	12/13/2011	6.0	UB00	2-40s	Stormwater	1274901.26	196895.89	Confirmation	SB-04114 (SWMU 2-41.36), E Sidewall	Removed by subsequent excavation
P2IM-SM-035-06-S-C	12/13/2011	6.0	UB00	2-40s	Stormwater	1274900.36	196883.66	Confirmation	SB-04114 (SWMU 2-41.36), SE Sidewall	Removed by subsequent excavation
P2IM-SM-036-11-S-P	12/13/2011	11.0	UB13	2-40s	Stormwater	1274988.92	196733.42	Confirmation	P2IM-SM-005, CIS/DCE Excav, SW Bottom	
P2IM-SM-037-11-S-P	12/13/2011	11.0	UB13	2-40s	Stormwater	1274989.21	196760.28	Confirmation	P2IM-SM-005, CIS/DCE Excav, SE Bottom	
P2IM-SM-038-10-S-S	12/15/2011	9-10	UB64	2-40s	Paved Shoreline	1274780.10	196924.34	Supplemental	N 1/3 Stormwater Area SA1, NW Sidewall	
P2IM-SM-039-05-S-S	12/15/2011	4-5	UB64	2-40s	Paved Shoreline	1274780.10	196924.34	Supplemental	N 1/3 Stormwater Area SA1, NW Sidewall	
P2IM-SM-040-01-S-S	12/15/2011	0-1	UB64	2-40s	Paved Shoreline	1274780.10	196924.34	Supplemental	N 1/3 Stormwater Area SA1, NW Sidewall	Removed by subsequent excavation
P2IM-SM-040.01-01-S-C	5/4/2012	0-1	BNX47/1306957	2-40s	Paved Shoreline	1274775.85	196928.19	Confirmation	N 1/3 Stormwater Area MTCA, N Central Sidewall	
P2IM-SM-041-10-S-S	12/15/2011	9-10	UB64	2-40s	Paved Shoreline	1274806.70	196951.58	Supplemental	N 1/3 Stormwater Area SA1, N Central Sidewall	
P2IM-SM-042-05-S-S	12/15/2011	4-5	UB64	2-40s	Paved Shoreline	1274806.70	196951.58	Supplemental	N 1/3 Stormwater Area SA1, N Central Sidewall	
P2IM-SM-043-01-S-S	12/15/2011	0-1	UB64	2-40s	Paved Shoreline	1274806.70	196951.58	Supplemental	N 1/3 Stormwater Area SA1, N Central Sidewall	Removed by subsequent excavation
P2IM-SM-043.01-01-S-C	5/16/2012	0-1	BNX63/1309510	2-40s	Paved Shoreline	1274801.37	196956.40	Confirmation	N 1/3 Stormwater Area MTCA, N Central Sidewall	
P2IM-SM-044-10-S-S	12/15/2011	9-10	UB64	2-40s	Industrial	1274838.84	196989.65	Supplemental	N 1/3 Stormwater Area SA1, NE Sidewall	
P2IM-SM-045-05-S-S	12/15/2011	4-5	UB64	2-40s	Industrial	1274838.84	196989.65	Supplemental	N 1/3 Stormwater Area SA1, NE Sidewall	
P2IM-SM-046-01-S-S	12/15/2011	0-1	UB64	2-40s	Industrial	1274838.84	196989.65	Supplemental	N 1/3 Stormwater Area SA1, NE Sidewall	
P2IM-SM-047-10-S-S	12/22/2011	9-10	UC40	2-40s	Stormwater	1275095.83	196621.72	Supplemental	N 1/3 Stormwater Area SA1, SW Sidewall	Removed by subsequent excavation
P2IM-SM-047-10-S-CL	12/22/2011	9-10	UC40	2-40s	Stormwater	1275095.83	196621.72	Co-Located (QC)	N 1/3 Stormwater Area SA1, SW Sidewall	Removed by subsequent excavation
P2IM-SM-047.01-10-S-C	5/4/2012	9-10	BNX47/1306957	2-40s	Stormwater	1275104.93	196613.97	Confirmation	N 1/3 Stormwater Area SA1, SW Sidewall	

Table 4: Supplemental and Confirmation Soil Sample Status
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Sample No.	Sample Date	Depth (ft)	Data Package	Area	Risk Mgt Area	Easting	Northing	Reason for Sample	Location / Purpose	
									Location or Sample Replaced	New Sample Status
P2IM-SM-048-05-S-S	12/22/2011	4-5	UC40	2-40s	Stormwater	1275095.83	196621.72	Supplemental	N 1/3 Stormwater Area SA1, SW Sidewall	Removed by subsequent excavation
P2IM-SM-049-01-S-S	12/22/2011	0-1	UC40	2-40s	Stormwater	1275095.83	196621.72	Supplemental	N 1/3 Stormwater Area SA1, SW Sidewall	Removed by subsequent excavation
P2IM-SM-050-10-S-S	12/22/2011	9-10	UC40	2-40s	Stormwater	1275116.80	196643.19	Supplemental	N 1/3 Stormwater Area SA1, S Central Sidewall (SWMU 2-41.31)	Removed by subsequent excavation
P2IM-SM-050.01-10-S-C	5/4/2012	9-10	BNX47/1306957	2-40s	Stormwater	1275125.90	196635.44	Confirmation	N 1/3 Stormwater Area SA1, S Central Sidewall (SWMU 2-41.31)	
P2IM-SM-051-05-S-S	12/22/2011	4-5	UC40	2-40s	Stormwater	1275116.80	196643.19	Supplemental	N 1/3 Stormwater Area SA1, S Central Sidewall (SWMU 2-41.31)	Removed by subsequent excavation
P2IM-SM-052-01-S-S	12/22/2011	0-1	UC40	2-40s	Stormwater	1275116.80	196643.19	Supplemental	N 1/3 Stormwater Area SA1, S Central Sidewall (SWMU 2-41.31)	Removed by subsequent excavation
P2IM-SM-053-10-S-S	12/22/2011	9-10	UC40	2-40s	Stormwater	1275136.47	196674.08	Supplemental	N 1/3 Stormwater Area SA1, SE Sidewall (SWMU 2-41.31)	Removed by subsequent excavation
P2IM-SM-053.01-10-S-C	5/4/2012	9-10	BNX47/1306957	2-40s	Stormwater	1275143.90	196667.39	Confirmation	N 1/3 Stormwater Area SA1, Re-Excav SE Sidewall (SWMU 2-41.31)	Removed by subsequent excavation
P2IM-SM-053.02-10-S-C	5/16/2012	9-10	BNX63/1309510	2-40s	Stormwater	1275154.54	196653.79	Confirmation	N 1/3 Stormwater Area SA1, 2nd Re-Excav SE Sidewall (SWMU 2-41.31)	
P2IM-SM-054-05-S-S	12/22/2011	4-5	UC40	2-40s	Stormwater	1275136.47	196674.08	Supplemental	N 1/3 Stormwater Area SA1, SE Sidewall (SWMU 2-41.31)	Removed by subsequent excavation
P2IM-SM-055-01-S-S	12/22/2011	0-1	UC40	2-40s	Stormwater	1275136.47	196674.08	Supplemental	N 1/3 Stormwater Area SA1, SE Sidewall (SWMU 2-41.31)	Removed by subsequent excavation
P2IM-SM-056-01-S-C	12/28/2011	1.0	UC77	2-40s	Stormwater	1275017.94	196762.12	Confirmation	P2IM-SM-005, Test Pit #1, SE of CIS/DCE Excav (SWMU 2-41.31)	Removed by subsequent excavation
P2IM-SM-057-05-S-C	12/28/2011	5.0	UC77	2-40s	Stormwater	1275017.94	196762.12	Confirmation	P2IM-SM-005, Test Pit #1, SE of CIS/DCE Excav (SWMU 2-41.31)	Removed by subsequent excavation
P2IM-SM-058-11-S-C	12/28/2011	11.0	UC77	2-40s	Stormwater	1275017.94	196762.12	Confirmation	P2IM-SM-005, Test Pit #1, SE of CIS/DCE Excav (SWMU 2-41.31)	
P2IM-SM-059-01-S-C	12/28/2011	1.0	UC77	2-40s	Stormwater	1274993.46	196790.41	Confirmation	P2IM-SM-005, Test Pit #2, NE of CIS/DCE Excav (SWMU 2-41.31)	Removed by subsequent excavation
P2IM-SM-060-05-S-C	12/28/2011	5.0	UC77	2-40s	Stormwater	1274993.46	196790.41	Confirmation	P2IM-SM-005, Test Pit #2, NE of CIS/DCE Excav (SWMU 2-41.31)	Removed by subsequent excavation
P2IM-SM-061-11-S-C	12/28/2011	11.0	UC77	2-40s	Stormwater	1274993.46	196790.41	Confirmation	P2IM-SM-005, Test Pit #2, NE of CIS/DCE Excav (SWMU 2-41.31)	
P2IM-SM-062-01-S-C	12/29/2011	1.0	UC93	2-40s	Stormwater	1274976.72	196771.22	Confirmation	P2IM-SM-005, Test Pit #3, N of CIS/DCE Excav (SWMU 2-41.31)	Removed by subsequent excavation
P2IM-SM-063-05-S-C	12/29/2011	5.0	UC93	2-40s	Stormwater	1274976.72	196771.22	Confirmation	P2IM-SM-005, Test Pit #3, N of CIS/DCE Excav (SWMU 2-41.31)	Removed by subsequent excavation
P2IM-SM-064-11-S-C	12/29/2011	11.0	UC93	2-40s	Stormwater	1274976.72	196771.22	Confirmation	P2IM-SM-005, Test Pit #3, N of CIS/DCE Excav (SWMU 2-41.31)	
P2IM-SM-064-11-S-CL	12/29/2011	11.0	UC93	2-40s	Stormwater	1274976.72	196771.22	Co-Located (QC)	P2IM-SM-005, Test Pit #3, N of CIS/DCE Excav (SWMU 2-41.31)	
P2IM-SM-065-01-S-C	12/29/2011	1.0	UC93	2-40s	Stormwater	1274959.81	196735.44	Confirmation	P2IM-SM-005, Test Pit #4, W of CIS/DCE Excav	Removed by subsequent excavation
P2IM-SM-066-05-S-C	12/29/2011	5.0	UC93	2-40s	Stormwater	1274959.81	196735.44	Confirmation	P2IM-SM-005, Test Pit #4, W of CIS/DCE Excav	Removed by subsequent excavation
P2IM-SM-067-11-S-C	12/29/2011	11.0	UC93	2-40s	Stormwater	1274959.81	196735.44	Confirmation	P2IM-SM-005, Test Pit #4, W of CIS/DCE Excav	
P2IM-SM-068-01-S-C	12/29/2011	1.0	UC93	2-40s	Stormwater	1274989.20	196727.09	Confirmation	P2IM-SM-005, Test Pit #5, SW of CIS/DCE Excav	Removed by subsequent excavation
P2IM-SM-069-05-S-C	12/29/2011	5.0	UC93	2-40s	Stormwater	1274989.20	196727.09	Confirmation	P2IM-SM-005, Test Pit #5, SW of CIS/DCE Excav	Removed by subsequent excavation
P2IM-SM-070-11-S-C	12/29/2011	11.0	UC93	2-40s	Stormwater	1274989.20	196727.09	Confirmation	P2IM-SM-005, Test Pit #5, SW of CIS/DCE Excav	
P2IM-SM-071-01-S-C	12/29/2011	1.0	UC93	2-40s	Stormwater	1275009.09	196741.95	Confirmation	P2IM-SM-005, Test Pit #6, S of CIS/DCE Excav (SWMU 2-41.31)	Removed by subsequent excavation
P2IM-SM-072-05-S-C	12/29/2011	5.0	UC93	2-40s	Stormwater	1275009.09	196741.95	Confirmation	P2IM-SM-005, Test Pit #6, S of CIS/DCE Excav (SWMU 2-41.31)	Removed by subsequent excavation
P2IM-SM-073-11-S-C	12/29/2011	11.0	UC93	2-40s	Stormwater	1275009.09	196741.95	Confirmation	P2IM-SM-005, Test Pit #6, S of CIS/DCE Excav (SWMU 2-41.31)	
P2IM-SM-074-01-S-WC	12/29/2011	0-1	UC92	2-31	Industrial	1274921.04	197188.02	Confirmation/Waste Characterization	2-31 Area Excav, TP 1, NE Area of Excav	Removed by subsequent excavation
P2IM-SM-075-05-S-WC	12/29/2011	4-5	UC92	2-31	Industrial	1274921.04	197188.02	Confirmation/Waste Characterization	2-31 Area Excav, TP 1, NE Area of Excav	Removed by subsequent excavation
P2IM-SM-076-11-S-WC	12/29/2011	10-11	UC92	2-31	Industrial	1274921.04	197188.02	Confirmation/Waste Characterization	2-31 Area Excav, TP 1, NE Area of Excav	
P2IM-SM-077-01-S-WC	12/29/2011	0-1	UC92	2-31	Industrial	1274855.69	197064.43	Confirmation/Waste Characterization	2-31 Area Excav, TP 2, W Area of Excav	Removed by subsequent excavation
P2IM-SM-078-05-S-WC	12/29/2011	4-5	UC92	2-31	Industrial	1274855.69	197064.43	Confirmation/Waste Characterization	2-31 Area Excav, TP 2, W Area of Excav	Removed by subsequent excavation
P2IM-SM-079-11-S-WC	12/29/2011	10-11	UC92	2-31	Industrial	1274855.69	197064.43	Confirmation/Waste Characterization	2-31 Area Excav, TP 2, W Area of Excav	
P2IM-SM-080-01-S-WC	12/29/2011	0-1	UC92	2-31	Industrial	1274952.09	197166.83	Confirmation/Waste Characterization	2-31 Area Excav, TP 3, SE Area of Excav	Removed by subsequent excavation
P2IM-SM-081-05-S-WC	12/29/2011	4-5	UC92	2-31	Industrial	1274952.09	197166.83	Confirmation/Waste Characterization	2-31 Area Excav, TP 3, SE Area of Excav	Removed by subsequent excavation
P2IM-SM-082-11-S-WC	12/29/2011	10-11	UC92	2-31	Industrial	1274952.09	197166.83	Confirmation/Waste Characterization	2-31 Area Excav, TP 3, SE Area of Excav	
P2IM-SM-083-01-S-WC	12/30/2011	0-1	UD01	2-31	Industrial	1274874.01	197117.53	Confirmation/Waste Characterization	2-31 Area Excav, TP 4, SW Area of Excav	Removed by subsequent excavation
P2IM-SM-084-05-S-WC	12/30/2011	4-5	UD01	2-31	Industrial	1274874.01	197117.53	Confirmation/Waste Characterization	2-31 Area Excav, TP 4, SW Area of Excav	Removed by subsequent excavation
P2IM-SM-085-11-S-WC	12/30/2011	10-11	UD01	2-31	Industrial	1274874.01	197117.53	Confirmation/Waste Characterization	2-31 Area Excav, TP 4, SW Area of Excav	
P2IM-SM-086-01-S-WC	12/30/2011	0-1	UD01	2-31	Industrial	1274895.89	197109.85	Confirmation/Waste Characterization	2-31 Area Excav, TP 5, S Central Area of Excav	Removed by subsequent excavation
P2IM-SM-087-05-S-WC	12/30/2011	4-5	UD01	2-31	Industrial	1274895.89	197109.85	Confirmation/Waste Characterization	2-31 Area Excav, TP 5, S Central Area of Excav	Removed by subsequent excavation
P2IM-SM-088-11-S-WC	12/30/2011	10-11	UD01	2-31	Industrial	1274895.89	197109.85	Confirmation/Waste Characterization	2-31 Area Excav, TP 5, S Central Area of Excav	
P2IM-SM-089-10-S-S	2/2/2012	10.0	BNW23/1288050	2-31	Industrial	1274872.81	197058.73	Supplemental	2-31 Area Excav near 2-31-DP-40, W end of S Sidewall	
P2IM-SM-090-05-S-S	2/2/2012	5.0	BNW23/1288050	2-31	Industrial	1274872.81	197058.73	Supplemental	2-31 Area Excav near 2-31-DP-40, W end of S Sidewall	
P2IM-SM-091-01-S-S	2/2/2012	1.0	BNW23/1288050	2-31	Industrial	1274872.81	197058.73	Supplemental	2-31 Area Excav near 2-31-DP-40, W end of S Sidewall	
P2IM-SM-092-10-S-S	2/2/2012	10.0	BNW24/1288193	2-31	Industrial	1274862.32	197119.46	Supplemental	2-31 Area Excav near 2-31-DP-38, SW sidewall	
P2IM-SM-093-05-S-S	2/2/2012	5.0	BNW24/1288193	2-31	Industrial	1274859.34	197122.14	Supplemental	2-31 Area Excav near 2-31-DP-38, SW sidewall	
P2IM-SM-094-01-S-S	2/2/2012	1.0	BNW24/1288193	2-31	Industrial	1274855.63	197125.48	Supplemental	2-31 Area Excav near 2-31-DP-38, SW sidewall	
P2IM-SM-095-08-S-P	2/6/2012	8.0	BNW25/1288387	2-31	Industrial	1274875.86	197136.80	Potentially Impacted Soil	2-31 Area Excav, N Central portion	Removed by subsequent excavation
P2IM-SM-095.01-11-S-C	4/26/2012	11.0	BNX39/1305066	2-31	Industrial	1274873.78	197145.43	Confirmation	2-31 Area Re-Excav near P2IM-SM-095, Bottom	

Table 4: Supplemental and Confirmation Soil Sample Status
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Sample No.	Sample Date	Depth (ft)	Data Package	Area	Risk Mgt Area	Easting	Northing	Reason for Sample	Location / Purpose	
									Location or Sample Replaced	New Sample Status
P2IM-SM-095.02-10-S-C	4/26/2012	10.0	BNX39/1305066	2-31	Industrial	1274875.05	197148.33	Confirmation	2-31 Area Re-Excav near P2IM-SM-095, E Sidewall	Removed by subsequent excavation
P2IM-SM-095.03-05-S-C	4/26/2012	5.0	BNX39/1305066	2-31	Industrial	1274875.05	197148.33	Confirmation	2-31 Area Re-Excav near P2IM-SM-095, E Sidewall	Removed by subsequent excavation
P2IM-SM-095.04-10-S-C	4/26/2012	10.0	BNX39/1305066	2-31	Industrial	1274878.88	197135.41	Confirmation	2-31 Area Re-Excav near P2IM-SM-095, S Sidewall	Removed by subsequent excavation
P2IM-SM-095.05-05-S-C	4/26/2012	5.0	BNX39/1305066	2-31	Industrial	1274878.88	197135.41	Confirmation	2-31 Area Re-Excav near P2IM-SM-095, S Sidewall	Removed by subsequent excavation
P2IM-SM-096-11-S-C	2/7/2012	11.0	BNW30/1288810	2-31	Industrial	1274922.96	197172.57	Confirmation	2-31 Area Excav, E Central portion	
P2IM-SM-097-06-S-C	2/7/2012	6.0	BNW30/1288810	2-31	Industrial	1274940.27	197200.28	Confirmation	2-31 Area Excav, E Sidewall of 1st Excav	Removed by subsequent excavation
P2IM-SM-097.01-11-S-C	4/25/2012	11.0	BNX36/1304741	2-31	Industrial	1274943.79	197203.83	Confirmation	2-31 Area Re-Exav, near P2IM-SM-097, NE portion	
P2IM-SM-097.02-10-S-C	4/25/2012	10.0	BNX36/1304741	2-31	Industrial	1274947.60	197200.43	Confirmation	2-31 Area Re-Exav, near P2IM-SM-097, NE portion	Removed by subsequent excavation
P2IM-SM-097.03-05-S-C	4/25/2012	5.0	BNX36/1304741	2-31	Industrial	1274948.49	197199.78	Confirmation	2-31 Area Re-Exav, near P2IM-SM-097, NE portion	Removed by subsequent excavation
P2IM-SM-097.04-01-S-C	4/25/2012	1.0	BNX36/1304741	2-31	Industrial	1274949.46	197198.89	Confirmation	2-31 Area Re-Exav, near P2IM-SM-097, NE portion	Removed by subsequent excavation
P2IM-SM-097.05-10-S-C	4/25/2012	10.0	BNX36/1304741	2-31	Industrial	1274947.82	197208.05	Confirmation	2-31 Area Re-Exav, near P2IM-SM-097, NE portion	
P2IM-SM-097.06-05-S-C	4/25/2012	5.0	BNX36/1304741	2-31	Industrial	1274948.47	197208.94	Confirmation	2-31 Area Re-Exav, near P2IM-SM-097, NE portion	
P2IM-SM-097.07-01-S-C	4/25/2012	1.0	BNX36/1304741	2-31	Industrial	1274949.12	197209.83	Confirmation	2-31 Area Re-Exav, near P2IM-SM-097, NE portion	
P2IM-SM-097.08-10-S-C	5/7/2012	10.0	BNX48/1307232	2-31	Industrial	1274960.87	197196.46	Confirmation	2-31 Area Re-Exav, near P2IM-SM-097, NE portion	
P2IM-SM-097.09-05-S-C	5/7/2012	5.0	BNX48/1307232	2-31	Industrial	1274961.45	197197.11	Confirmation	2-31 Area Re-Exav, near P2IM-SM-097, NE portion	
P2IM-SM-097.10-01-S-C	5/7/2012	1.0	BNX48/1307232	2-31	Industrial	1274962.19	197197.92	Confirmation	2-31 Area Re-Exav, near P2IM-SM-097, NE portion	
P2IM-SM-098-10-S-S	2/7/2012	10.0	BNW30/1288810	2-31	Industrial	1274909.63	197186.05	Supplemental	2-31-DP-07, N Sidewall	Removed by subsequent excavation
P2IM-SM-099-05-S-S	2/7/2012	5.0	BNW30/1288810	2-31	Industrial	1274907.40	197188.06	Supplemental	2-31-DP-07, N Sidewall	Removed by subsequent excavation
P2IM-SM-100-01-S-S	2/7/2012	1.0	BNW30/1288810	2-31	Industrial	1274902.94	197192.07	Supplemental	2-31-DP-07, N Sidewall	Removed by subsequent excavation
P2IM-SM-101-06-S-C	2/7/2012	6.0	BNW30/1288810	2-31	Industrial	1274909.56	197166.12	Confirmation	2-31 Area Excav, W sidewall of 1st Excav	Removed by subsequent excavation
P2IM-SM-101.01-11-S-C	4/25/2012	11.0	BNX36/1304741	2-31	Industrial	1274909.01	197165.16	Confirmation	2-31 Area Re-Excav, Subtitle C TCE, near P2IM-SM-101, bottom	
P2IM-SM-101.02-10-S-C	4/25/2012	10.0	BNX36/1304741	2-31	Industrial	1274905.14	197167.92	Confirmation	2-31 Area Re-Excav, Subtitle C TCE, near P2IM-SM-101, N Sidewall	Removed by subsequent excavation
P2IM-SM-101.03-05-S-C	4/25/2012	5.0	BNX36/1304741	2-31	Industrial	1274904.09	197168.72	Confirmation	2-31 Area Re-Excav, Subtitle C TCE, near P2IM-SM-101, N Sidewall	Removed by subsequent excavation
P2IM-SM-101.05-10-S-C	4/25/2012	10.0	BNX36/1304741	2-31	Industrial	1274905.46	197161.71	Confirmation	2-31 Area Re-Excav, Subtitle C TCE, near P2IM-SM-101, W Sidewall	Removed by subsequent excavation
P2IM-SM-101.06-05-S-C	4/25/2012	5.0	BNX36/1304741	2-31	Industrial	1274904.51	197160.65	Confirmation	2-31 Area Re-Excav, Subtitle C TCE, near P2IM-SM-101, W Sidewall	Removed by subsequent excavation
P2IM-SM-101.07-03-S-C	4/25/2012	3.0	BNX36/1304741	2-31	Industrial	1274903.33	197159.35	Confirmation	2-31 Area Re-Excav, Subtitle C TCE, near P2IM-SM-101, W Sidewall	Removed by subsequent excavation
P2IM-SM-102-11-S-C	2/10/2012	11.0	BNW34/1289277	2-40s	Industrial	1274950.49	196950.51	Confirmation	2-40-DP-056 Excav, Bottom	
P2IM-SM-103-10-S-S	2/10/2012	10.0	BNW34/1289277	2-40s	Industrial	1274946.09	196945.67	Supplemental	2-40-DP-056 Excav, W sidewall	
P2IM-SM-104-05-S-S	2/10/2012	5.0	BNW34/1289277	2-40s	Industrial	1274946.09	196945.67	Supplemental	2-40-DP-056 Excav, W sidewall	
P2IM-SM-105-01-S-S	2/10/2012	1.0	BNW34/1289277	2-40s	Industrial	1274946.09	196945.67	Supplemental	2-40-DP-056 Excav, W sidewall	
P2IM-SM-106-06-S-C	2/10/2012	6.0	BNW34/1289277	2-40s	Industrial	1274955.76	196945.40	Confirmation	2-40-DP-056 Excav, S sidewall	
P2IM-SM-107-06-S-C	2/10/2012	6.0	BNW34/1289277	2-40s	Industrial	1274944.56	196955.75	Confirmation	2-40-DP-056 Excav, N sidewall	Removed by subsequent excavation
P2IM-SM-108-06-S-CL	2/10/2012	6.0	BNW34/1289277	2-40s	Industrial	1274944.56	196955.75	Co-Located (QC)	2-40-DP-056 Excav, N sidewall	Removed by subsequent excavation
P2IM-SM-109-11-S-C	2/10/2012	11.0	BNW33/1289276	2-40s	Industrial	1274945.08	197009.11	Confirmation	P2IM-SM-017 (SWMU 2-41.33) Excav, Center/bottom	
P2IM-SM-110-06-S-C	2/10/2012	6.0	BNW33/1289276	2-40s	Industrial	1274941.38	197014.06	Confirmation	P2IM-SM-017 (SWMU 2-41.33) Excav, N Sidewall	
P2IM-SM-111-06-S-C	2/10/2012	6.0	BNW33/1289276	2-40s	Industrial	1274950.88	197006.26	Confirmation	P2IM-SM-017 (SWMU 2-41.33) Excav, S Sidewall	
P2IM-SM-112-06-S-S	2/10/2012	6.0	BNW33/1289276	2-40s	Industrial	1274949.91	197014.50	Supplemental	P2IM-SM-017 (SWMU 2-41.33) Excav, E Sidewall	
P2IM-SM-113-11-S-C	2/10/2012	11.0	BNW32/1289275	2-40s	Industrial	1275138.94	197196.74	Confirmation	IA1-WC-01 Excav, Center/base	
P2IM-SM-114-10-S-S	2/10/2012	10.0	BNW32/1289275	2-40s	Industrial	1275143.20	197192.91	Confirmation	IA1-WC-01 Excav, S sidewall	
P2IM-SM-115-06-S-S	2/10/2012	6.0	BNW32/1289275	2-40s	Industrial	1275143.20	197192.91	Confirmation	IA1-WC-01 Excav, S sidewall	
P2IM-SM-116-02-S-S	2/10/2012	2.0	BNW32/1289275	2-40s	Industrial	1275143.20	197192.91	Confirmation	IA1-WC-01 Excav, S sidewall	
P2IM-SM-117-06-S-C	2/10/2012	6.0	BNW32/1289275	2-40s	Industrial	1275143.57	197201.89	Confirmation	IA1-WC-01 Excav, E sidewall	
P2IM-SM-118-06-S-C	2/10/2012	6.0	BNW32/1289275	2-40s	Industrial	1275135.24	197193.00	Confirmation	IA1-WC-01 Excav, W sidewall	Removed by subsequent excavation
P2IM-SM-119-06-S-C	2/21/2012	6.0	BNW52/1291100	2-40s	Industrial	1274914.81	196985.37	Confirmation	SB-04105 Excav, W sidewall (SWMU 2-41.33)	
P2IM-SM-119.01-06-S-C	3/23/2012	6.0	BNW83/1296266	2-40s	Industrial	1274925.01	196977.97	Confirmation	SB-04105 Re-excav, W Sidewall (SWMU 2-41.33)	
P2IM-SM-120-06-S-C	2/21/2012	6.0	BNW52/1291100	2-40s	Industrial	1274927.87	197000.33	Confirmation	SB-04105 Excav, E sidewall (SWMU 2-41.33)	
P2IM-SM-120.01-06-S-C	3/23/2012	6.0	BNW83/1296266	2-40s	Industrial	1274936.04	196990.63	Confirmation	SB-04105 Re-excav, E sidewall (SWMU 2-41.33)	Removed by subsequent excavation
P2IM-SM-120.02-06-S-C	4/3/2012	6.0	BNW99/1299911	2-40s	Industrial	1274948.35	196994.85	Confirmation	SB-04105 2nd Re-excav, E Sidewall (SWMU 2-41.33)	
P2IM-SM-121-12-S-S	2/21/2012	12.0	BNW52/1291100	2-40s	Industrial	1274928.56	196987.16	Supplemental	SB-04105 Excav, S sidewall (SWMU 2-41.33)	Removed by subsequent excavation
P2IM-SM-121.01-12-S-S	3/23/2012	12.0	BNW83/1296266	2-40s	Industrial	1274934.72	196980.52	Supplemental	SB-04105 Re-excav, S Sidewall (SWMU 2-41.33)	Removed by subsequent excavation
P2IM-SM-121.02-12-S-S	4/3/2012	12.0	BNW99/1299911	2-40s	Industrial	1274947.40	196976.39	Supplemental	SB-04105 2nd Re-excav, S Sidewall (SWMU 2-41.33)	
P2IM-SM-122-10.5-S-S	2/21/2012	10.5	BNW52/1291100	2-40s	Industrial	1274928.56	196987.16	Supplemental	SB-04105 Excav, S sidewall (SWMU 2-41.33)	Removed by subsequent excavation
P2IM-SM-122.01-10.5-S-S	3/23/2012	10.5	BNW83/1296266	2-40s	Industrial	1274934.72	196980.52	Supplemental	SB-04105 Re-excav, S Sidewall (SWMU 2-41.33)	Removed by subsequent excavation

Table 4: Supplemental and Confirmation Soil Sample Status
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Sample No.	Sample Date	Depth (ft)	Data Package	Area	Risk Mgt Area	Easting	Northing	Reason for Sample	Location / Purpose	
									Location or Sample Replaced	New Sample Status
P2IM-SM-122.02-10.5-S-S	4/3/2012	10.5	BNW99/1299911	2-40s	Industrial	1274947.40	196976.39	Supplemental	SB-04105 2nd Re-excav, S Sidewall (SWMU 2-41.33)	
P2IM-SM-123-11-S-C	2/22/2012	11.0	BNW54/1291261	2-40s	Industrial	1275884.95	196904.96	Confirmation	OA21 Excav, Bottom Center	
P2IM-SM-124-10-S-S	2/22/2012	10.0	BNW54/1291261	2-40s	Industrial	1275905.43	196903.85	Supplemental	OA21 Excav, SE sidewall, SB-04422 Supplemental	Removed by subsequent excavation
P2IM-SM-124.01-11-S-C	8/21/2012	11.0	VG59	2-40s	Industrial	1275916.37	196903.50	Confirmation	OA21 SE Re-Excav, Bottom Center	Removed by subsequent excavation
P2IM-SM-124.02-10-S-C	8/21/2012	10.0	VG59	2-40s	Industrial	1275916.71	196909.74	Confirmation	OA21 SE Re-Excav, E sidewall	
P2IM-SM-124.03-05-S-C	8/21/2012	5.0	VG59	2-40s	Industrial	1275916.71	196909.74	Confirmation	OA21 SE Re-Excav, E sidewall	
P2IM-SM-124.04-10-S-C	8/21/2012	10.0	VG59	2-40s	Industrial	1275925.35	196903.00	Confirmation	OA21 SE Re-Excav, S sidewall	Removed by subsequent excavation
P2IM-SM-124.05-05-S-C	8/21/2012	5.0	VG59	2-40s	Industrial	1275925.35	196903.00	Confirmation	OA21 SE Re-Excav, S sidewall	Removed by subsequent excavation
P2IM-SM-124.05a-11-S-C	8/30/2012	11.0	VH63	2-40s	Industrial	1275930.35	196902.74	Confirmation	OA21 2nd SE Re-Excav, Bottom Center	
P2IM-SM-124.05b-10-S-C	8/30/2012	10.0	VH63	2-40s	Industrial	1275935.34	196902.49	Confirmation	OA21 2nd SE Re-Excav, SE sidewall	
P2IM-SM-124.05c-05-S-C	8/30/2012	5.0	VH63	2-40s	Industrial	1275935.34	196902.49	Confirmation	OA21 2nd SE Re-Excav, SE sidewall	
P2IM-SM-124.05d-10-S-C	8/30/2012	10.0	VH63	2-40s	Industrial	1275930.69	196908.96	Confirmation	OA21 2nd SE Re-Excav, NE sidewall	
P2IM-SM-124.05e-05-S-C	8/30/2012	5.0	VH63	2-40s	Industrial	1275930.69	196908.96	Confirmation	OA21 2nd SE Re-Excav, NE sidewall	
P2IM-SM-124.05f-10-S-C	8/30/2012	10.0	VH63	2-40s	Industrial	1275930.01	196896.62	Confirmation	OA21 2nd SE Re-Excav, SW sidewall	
P2IM-SM-124.05g-05-S-C	8/30/2012	5.0	VH63	2-40s	Industrial	1275930.01	196896.62	Confirmation	OA21 2nd SE Re-Excav, SW sidewall	
P2IM-SM-124.06-10-S-C	8/21/2012	10.0	VG59	2-40s	Industrial	1275916.02	196987.26	Confirmation	OA21 SE Re-Excav, W sidewall	
P2IM-SM-124.07-05-S-C	8/21/2012	5.0	VG59	2-40s	Industrial	1275916.02	196987.26	Confirmation	OA21 SE Re-Excav, W sidewall	
P2IM-SM-125-05-S-S	2/22/2012	5.0	BNW54/1291261	2-40s	Industrial	1275905.43	196903.85	Supplemental	OA21 Excav, SE sidewall, SB-04422 Supplemental	Removed by subsequent excavation
P2IM-SM-126-02-S-S	2/22/2012	2.0	BNW54/1291261	2-40s	Industrial	1275905.43	196903.85	Supplemental	OA21 Excav, SE sidewall, SB-04422 Supplemental	Removed by subsequent excavation
P2IM-SM-127-06-S-C	2/22/2012	6.0	BNW54/1291261	2-40s	Industrial	1275887.02	196914.07	Confirmation	OA21 Excav, NE sidewall	
P2IM-SM-128-06-S-C	2/22/2012	6.0	BNW54/1291261	2-40s	Industrial	1275881.71	196895.73	Confirmation	OA21 Excav, SW sidewall	Removed by subsequent excavation
P2IM-SM-128.01-11-S-C	8/22/2012	11.0	VG73	2-40s	Industrial	1275881.98	196893.39	Confirmation	OA21, NW Re-Excav, SW bottom	
P2IM-SM-128.02-10-S-C	8/22/2012	10.0	VG73	2-40s	Industrial	1275876.49	196893.70	Confirmation	OA21, NW Re-Excav, N sidewall	Removed by subsequent excavation
P2IM-SM-128.03-05-S-C	8/22/2012	5.0	VG73	2-40s	Industrial	1275881.65	196887.40	Confirmation	OA21, NW Re-Excav, W sidewall	Removed by subsequent excavation
P2IM-SM-128.03a-11-S-C	8/30/2012	11.0	VH63	2-40s	Industrial	1275881.29	196882.17	Confirmation	OA21, 2nd NW Re-Excav, Bottom South	
P2IM-SM-128.03b-10-S-C	8/30/2012	10.0	VH63	2-40s	Industrial	1275887.16	196881.97	Confirmation	OA21, 2nd NW Re-Excav, SE sidewall	
P2IM-SM-128.03c-05-S-C	8/30/2012	5.0	VH63	2-40s	Industrial	1275887.16	196881.97	Confirmation	OA21, 2nd NW Re-Excav, SE sidewall	
P2IM-SM-128.03d-10-S-C	8/30/2012	10.0	VH63	2-40s	Industrial	1275875.68	196877.70	Confirmation	OA21, 2nd NW Re-Excav, SW sidewall	
P2IM-SM-128.03e-05-S-C	8/30/2012	5.0	VH63	2-40s	Industrial	1275875.68	196877.70	Confirmation	OA21, 2nd NW Re-Excav, SW sidewall	
P2IM-SM-128.04-10-S-C	8/22/2012	10.0	VG73	2-40s	Industrial	1275887.91	196893.06	Confirmation	OA21, NW Re-Excav, S sidewall	
P2IM-SM-128.05-05-S-C	8/22/2012	5.0	VG73	2-40s	Industrial	1275887.91	196893.06	Confirmation	OA21, NW Re-Excav, S sidewall	
P2IM-SM-128.06-10-S-C	8/22/2012	10.0	VG73	2-40s	Industrial	1275881.65	196887.40	Confirmation	OA21, NW Re-Excav, W sidewall	Removed by subsequent excavation
P2IM-SM-128.07-05-S-C	8/22/2012	5.0	VG73	2-40s	Industrial	1275876.49	196893.70	Confirmation	OA21, NW Re-Excav, N sidewall	Removed by subsequent excavation
P2IM-SM-128.07a-11-S-C	8/30/2012	11.0	VH63	2-40s	Industrial	1275871.80	196887.86	Confirmation	OA21, 2nd NW Re-Excav, Bottom North	
P2IM-SM-128.07b-10-S-C	8/30/2012	10.0	VH63	2-40s	Industrial	1275866.34	196883.56	Confirmation	OA21, 2nd NW Re-Excav, NW sidewall W end	
P2IM-SM-128.07c-05-S-C	8/30/2012	5.0	VH63	2-40s	Industrial	1275866.34	196883.56	Confirmation	OA21, 2nd NW Re-Excav, NW sidewall W end	
P2IM-SM-128.07d-10-S-C	8/30/2012	10.0	VH63	2-40s	Industrial	1275866.74	196891.78	Confirmation	OA21, 2nd NW Re-Excav, NW sidewall E end	Removed by subsequent excavation
P2IM-SM-128.07d1-11-S-C	9/5/2012	11.0	VI18	2-40s	Industrial	1275862.18	196890.80	Confirmation	OA21, 3rd NW Re-Excav, Bottom	
P2IM-SM-128.07d2-10-S-C	9/5/2012	10.0	VI18	2-40s	Industrial	1275857.69	196891.05	Confirmation	OA21, 3rd NW Re-Excav, NW sidewall	Removed by subsequent excavation
P2IM-SM-128.07d3-05-S-C	9/5/2012	5.0	VI18	2-40s	Industrial	1275857.69	196891.05	Confirmation	OA21, 3rd NW Re-Excav, NW sidewall	Removed by subsequent excavation
P2IM-SM-128.07d3a-10-S-C	9/13/2012	10.0	VJ41	2-40s	Industrial	1275855.61	196889.66	Confirmation	OA21, 4th NW Re-Excav, NW sidewall	
P2IM-SM-128.07d3b-05-S-C	9/13/2012	5.0	VJ41	2-40s	Industrial	1275855.61	196889.66	Confirmation	OA21, 4th NW Re-Excav, NW sidewall	
P2IM-SM-128.07d4-10-S-C	9/5/2012	10.0	VI18	2-40s	Industrial	1275862.51	196896.79	Confirmation	OA21, 3rd NW Re-Excav, NE sidewall	
P2IM-SM-128.07d5-05-S-C	9/5/2012	5.0	VI18	2-40s	Industrial	1275862.51	196896.79	Confirmation	OA21, 3rd NW Re-Excav, NE sidewall	
P2IM-SM-128.07d6-10-S-C	9/5/2012	10.0	VI18	2-40s	Industrial	1275861.85	196884.81	Confirmation	OA21, 3rd NW Re-Excav, SW sidewall	Removed by subsequent excavation
P2IM-SM-128.07d7-05-S-C	9/5/2012	5.0	VI18	2-40s	Industrial	1275861.85	196884.81	Confirmation	OA21, 3rd NW Re-Excav, SW sidewall	Removed by subsequent excavation
P2IM-SM-128.07d7a-10-S-C	9/13/2012	10.0	VJ41	2-40s	Industrial	1275862.18	196881.79	Confirmation	OA21, 4th NW Re-Excav, SW sidewall	
P2IM-SM-128.07d7b-05-S-C	9/13/2012	5.0	VJ41	2-40s	Industrial	1275862.18	196881.79	Confirmation	OA21, 4th NW Re-Excav, SW sidewall	
P2IM-SM-128.07e-05-S-C	8/30/2012	5.0	VH63	2-40s	Industrial	1275866.74	196891.78	Confirmation	OA21, 2nd NW Re-Excav, NW sidewall E end	Removed by subsequent excavation
P2IM-SM-129-07.5-S-S	2/22/2012	7.5	BNW54/1291261	2-40s	Industrial	1275864.50	196907.20	Supplemental	OA21 Excav, NW sidewall, SB-04425 Supplemental	
P2IM-SM-130-12-S-S	2/24/2012	12.0	BNW58/1291687	2-40s	Industrial	1275173.81	196892.11	Supplemental	DP-4107 Excav, W Sidewall (SWMU 2-41.31)	Removed by subsequent excavation
P2IM-SM-130.01-12-S-S	4/5/2012	12.0	BNX05/1300599	2-40s	Industrial	1275169.74	196875.82	Supplemental	DP-4107 Re-excav, W Sidewall (SWMU 2-41.31)	
P2IM-SM-131-06-S-S	2/24/2012	6.0	BNW58/1291687	2-40s	Industrial	1275173.81	196892.11	Supplemental	DP-4107 Excav, W Sidewall (SWMU 2-41.31)	Removed by subsequent excavation

Table 4: Supplemental and Confirmation Soil Sample Status
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Sample No.	Sample Date	Depth (ft)	Data Package	Area	Risk Mgt Area	Easting	Northing	Reason for Sample	Location / Purpose	
									Location or Sample Replaced	New Sample Status
P2IM-SM-131.01-06-S-S	4/5/2012	6.0	BNX05/1300599	2-40s	Industrial	1275169.74	196875.82	Supplemental	DP-4107 Re-excav, W Sidewall (SWMU 2-41.31)	
P2IM-SM-132-06-S-C	2/24/2012	6.0	BNW58/1291687	2-40s	Industrial	1275184.62	196892.36	Confirmation	DP-4107 Excav, S Sidewall (SWMU 2-41.31)	Removed by subsequent excavation
P2IM-SM-132.01-06-S-C	4/5/2012	6.0	BNX05/1300599	2-40s	Industrial	1275195.80	196882.59	Confirmation	DP-4107 Re-excav, S Sidewall (SWMU 2-41.31)	
P2IM-SM-133-06-S-C	2/24/2012	6.0	BNW58/1291687	2-40s	Industrial	1275183.89	196903.30	Confirmation	DP-4107 Excav, E Sidewall (SWMU 2-41.31)	Removed by subsequent excavation
P2IM-SM-133.01-06-S-C	4/5/2012	6.0	BNX05/1300599	2-40s	Industrial	1275200.01	196908.44	Confirmation	DP-4107 Re-excav, E Sidewall (SWMU 2-41.31)	
P2IM-SM-134-11-S-C	2/24/2012	11.0	BNW59/1291688	2-40s	Industrial	1275299.69	197172.22	Confirmation	UST-1 (UPL-811) Excav, S Sidewall at GW	
P2IM-SM-135-11-S-C	2/24/2012	11.0	BNW59/1291688	2-40s	Industrial	1275277.07	197168.70	Confirmation	UST-1 (UPL-811) Excav, W Sidewall at GW	
P2IM-SM-136-11-S-C	2/24/2012	11.0	BNW59/1291688	2-40s	Industrial	1275279.21	197180.54	Confirmation	UST-1 (UPL-811) Excav, N Sidewall at GW	
P2IM-SM-137-11-S-C	2/24/2012	11.0	BNW59/1291688	2-40s	Industrial	1275292.42	197180.80	Confirmation	UST-1 (UPL-811) Excav, E Sidewall at GW	
P2IM-SM-138-11-S-C	3/23/2012	11.0	BNW84/1296627	2-31	Industrial	1274867.68	197174.80	Confirmation	2-31-DP-34 Excav, Bottom	
P2IM-SM-139-10-S-S	3/23/2012	10.0	BNW84/1296627	2-31	Industrial	1274876.28	197183.13	Supplemental	2-31-DP-34 Excav, E Sidewall	
P2IM-SM-140-05-S-S	3/23/2012	5.0	BNW84/1296627	2-31	Industrial	1274876.28	197183.13	Supplemental	2-31-DP-34 Excav, E Sidewall	
P2IM-SM-141-01-S-S	3/23/2012	1.0	BNW84/1296627	2-31	Industrial	1274876.28	197183.13	Supplemental	2-31-DP-34 Excav, E Sidewall	
P2IM-SM-142-06-S-C	3/23/2012	6.0	BNW84/1296627	2-31	Industrial	1274861.35	197181.42	Confirmation	2-31-DP-34 Excav, N Sidewall	
P2IM-SM-143-06-S-C	3/23/2012	6.0	BNW84/1296627	2-31	Industrial	1274875.80	197168.27	Confirmation	2-31-DP-34 Excav, S Sidewall	Removed by subsequent excavation
P2IM-SM-144-11-S-C	3/23/2012	11.0	BNW85/1297018	2-31	Industrial	1274839.62	197173.11	Confirmation	DP-3101 Excav, Bottom	
P2IM-SM-145-10.5-S-S	3/23/2012	10.5	BNW85/1297018	2-31	Industrial	1274844.24	197169.29	Supplemental	DP-3101 Excav, S Sidewall	
P2IM-SM-146-5.9-S-S	3/23/2012	5.9	BNW85/1297018	2-31	Industrial	1274844.24	197169.29	Supplemental	DP-3101 Excav, S Sidewall	
P2IM-SM-147-06-S-C	3/23/2012	6.0	BNW85/1297018	2-31	Industrial	1274846.27	197177.47	Confirmation	DP-3101 Excav, E Sidewall	
P2IM-SM-148-06-S-C	3/23/2012	6.0	BNW85/1297018	2-31	Industrial	1274835.54	197166.28	Confirmation	DP-3101 Excav, W Sidewall	
P2IM-SM-149-11-S-C	3/22/2012	11.0	BNW86/1297204	2-31	Industrial	1274855.18	197146.76	Confirmation	2-31-DP-36 Excav, Bottom	
P2IM-SM-150-06-S-C	3/22/2012	6.0	BNW86/1297204	2-31	Industrial	1274862.26	197152.73	Confirmation	2-31-DP-36 Excav, E Sidewall	Removed by subsequent excavation
P2IM-SM-151-10-S-S	3/22/2012	10.0	BNW86/1297204	2-31	Industrial	1274864.79	197140.68	Supplemental	2-31-DP-36 Supplemental @ 10', S Sidewall	Removed by subsequent excavation
P2IM-SM-151.01-11-S-C	4/26/2012	11.0	BNX39/1305066	2-31	Industrial	1274867.66	197130.08	Confirmation	2-31-DP-36, 2nd Re-Excav, Bottom	
P2IM-SM-151.02-10-S-C	4/26/2012	10.0	BNX39/1305066	2-31	Industrial	1274861.61	197130.82	Confirmation	2-31-DP-36, 2nd Re-Excav, W Sidewall	Removed by subsequent excavation
P2IM-SM-151.03-05-S-C	4/26/2012	5.0	BNX39/1305066	2-31	Industrial	1274861.61	197130.82	Confirmation	2-31-DP-36, 2nd Re-Excav, W Sidewall	Removed by subsequent excavation
P2IM-SM-151.04-10-S-C	4/26/2012	10.0	BNX39/1305066	2-31	Industrial	1274864.27	197144.59	Confirmation	2-31-DP-36, 2nd Re-Excav, N Sidewall	Removed by subsequent excavation
P2IM-SM-151.05-05-S-C	4/26/2012	5.0	BNX39/1305066	2-31	Industrial	1274864.27	197144.59	Confirmation	2-31-DP-36, 2nd Re-Excav, N Sidewall	Removed by subsequent excavation
P2IM-SM-152-05-S-S	3/22/2012	5.0	BNW86/1297204	2-31	Industrial	1274864.79	197140.68	Supplemental	2-31-DP-36 Supplemental @ 5', S Sidewall	Removed by subsequent excavation
P2IM-SM-152.01-05-S-S	3/30/2012	5.0	BNW94/1299239	2-31	Industrial	1274864.79	197140.68	Supplemental	2-31-DP-36 Re-Excav, replaces P2IM-SM-152-05-S-S, S Sidewall	Removed by subsequent excavation
P2IM-SM-153-01-S-S	3/22/2012	1.0	BNW86/1297204	2-31	Industrial	1274864.79	197140.68	Supplemental	2-31-DP-36 Supplemental @ 1', S Sidewall	Removed by subsequent excavation
P2IM-SM-153.01-01-S-S	3/30/2012	1.0	BNW94/1299239	2-31	Industrial	1274864.79	197140.68	Supplemental	2-31-DP-36 Re-Excav, replaces P2IM-SM-153-01-S-S, S Sidewall	Removed by subsequent excavation
P2IM-SM-154-06-S-C	3/22/2012	6.0	BNW86/1297204	2-31	Industrial	1274851.55	197140.26	Confirmation	2-31-DP-36 Excav, W Sidewall	Removed by subsequent excavation
P2IM-SM-155-11-S-C	3/23/2012	11.0	BNW87/1297519	2-40s	Industrial	1274941.65	196958.09	Confirmation	2-40-DP-056 Re-excav, Bottom	
P2IM-SM-156-06-S-C	3/23/2012	6.0	BNW87/1297519	2-40s	Industrial	1274938.00	196953.00	Confirmation	2-40-DP-056 Re-excav, W Sidewall	
P2IM-SM-157-06-S-C	3/23/2012	6.0	BNW87/1297519	2-40s	Industrial	1274938.21	196961.51	Confirmation	2-40-DP-056 Re-excav, N Sidewall, replaces P2IM-SM-107	
P2IM-SM-158-06-S-C	3/23/2012	6.0	BNW87/1297519	2-40s	Industrial	1274947.37	196961.33	Confirmation	2-40-DP-056 Re-excav, E Sidewall	
P2IM-SM-159-11-S-C	3/23/2012	11.0	BNW88/1297525	2-40s	Industrial	1275132.70	197189.79	Confirmation	IA1-WC-01 Re-excav, Bottom Center	
P2IM-SM-160-06-S-C	3/23/2012	6.0	BNW88/1297525	2-40s	Industrial	1275129.27	197186.31	Confirmation	IA1-WC-01 Re-excav, W Sidewall	
P2IM-SM-160-06-S-CL	3/23/2012	6.0	BNW88/1297525	2-40s	Industrial	1275136.93	197186.87	Co-Located (QC)	IA1-WC-01 Re-excav, W Sidewall	
P2IM-SM-161-06-S-C	3/23/2012	6.0	BNW88/1297525	2-40s	Industrial	1275129.52	197193.54	Confirmation	IA1-WC-01 Re-excav, S Sidewall	
P2IM-SM-162-06-S-C	3/23/2012	6.0	BNW88/1297525	2-40s	Industrial	1275129.52	197193.54	Confirmation	IA1-WC-01 Re-excav, N Sidewall	
P2IM-SM-163-10-S-S	4/6/2012	10.0	BNX07/1300788	2-40s	Stormwater	1275536.52	196208.71	Supplemental	2-49 MTCA Excav, N Sidewall	Removed by subsequent excavation
P2IM-SM-163.01-10-S-C	5/8/2012	10.0	BNX51/1307564	2-40s	Stormwater	1275524.39	196219.71	Confirmation	2-49 MTCA Re-Excav, N Sidewall	
P2IM-SM-164-06-S-S	4/6/2012	6.0	BNX07/1300788	2-40s	Stormwater	1275534.28	196210.72	Supplemental	2-49 MTCA Excav, N Sidewall	Removed by subsequent excavation
P2IM-SM-164.01-06-S-C	5/8/2012	6.0	BNX51/1307564	2-40s	Stormwater	1275520.69	196223.07	Confirmation	2-49 MTCA Re-Excav, N Sidewall	
P2IM-SM-165-01-S-S	4/6/2012	1.0	BNX07/1300788	2-40s	Stormwater	1275532.05	196212.72	Supplemental	2-49 MTCA Excav, N Sidewall	Removed by subsequent excavation
P2IM-SM-165.01-01-S-C	5/8/2012	1.0	BNX51/1307564	2-40s	Stormwater	1275517.73	196225.76	Confirmation	2-49 MTCA Re-Excav, N Sidewall	
P2IM-SM-166-10-S-S	4/6/2012	10.0	BNX09/1300790	2-40s	Stormwater	1275565.11	196240.45	Supplemental	2-49 MTCA Excav, N Sidewall (OA 14)	Removed by subsequent excavation
P2IM-SM-166.01-10-S-C	5/8/2012	10.0	BNX51/1307564	2-40s	Stormwater	1275552.98	196251.45	Confirmation	2-49 MTCA Re-Excav, N Sidewall (OA 14)	Removed by subsequent excavation
P2IM-SM-167-06-S-S	4/6/2012	6.0	BNX09/1300790	2-40s	Stormwater	1275562.88	196242.46	Supplemental	2-49 MTCA Excav, N Sidewall (OA 14)	Removed by subsequent excavation
P2IM-SM-167.01-06-S-C	5/8/2012	6.0	BNX51/1307564	2-40s	Stormwater	1275549.28	196254.81	Confirmation	2-49 MTCA Re-Excav, N Sidewall (OA 14)	Removed by subsequent excavation
P2IM-SM-168-01-S-S	4/6/2012	1.0	BNX09/1300790	2-40s	Stormwater	1275560.65	196244.46	Supplemental	2-49 MTCA Excav, N Sidewall (OA 14)	Removed by subsequent excavation

Table 4: Supplemental and Confirmation Soil Sample Status
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Sample No.	Sample Date	Depth (ft)	Data Package	Area	Risk Mgt Area	Easting	Northing	Reason for Sample	Location / Purpose	
									Location or Sample Replaced	New Sample Status
P2IM-SM-168.01-01-S-C	5/8/2012	1.0	BNX51/1307564	2-40s	Stormwater	1275546.32	196257.50	Confirmation	2-49 MTCA Re-Excav, N Sidewall (OA 14)	Removed by subsequent excavation
P2IM-SM-169-10-S-S	4/6/2012	10.0	BNX08/1300789	2-40s	Stormwater	1275591.91	196278.05	Supplemental	2-49 MTCA Excav, N Sidewall (OA 14)	
P2IM-SM-169-10-S-CL	4/6/2012	10.0	BNX08/1300789	2-40s	Stormwater	1275591.91	196278.05	Co-Located (QC)	2-49 MTCA Excav, N Sidewall (OA 14)	
P2IM-SM-170-06-S-S	4/6/2012	6.0	BNX08/1300789	2-40s	Stormwater	1275589.67	196280.06	Supplemental	2-49 MTCA Excav, N Sidewall (OA 14)	Removed by subsequent excavation
P2IM-SM-171-10-S-S	4/10/2012	10.0	BNX13/1301346	2-40s	Stormwater	1275626.55	196248.73	Supplemental	2-49 MTCA Excav, E Sidewall (OA 14)	
P2IM-SM-172-06-S-S	4/10/2012	6.0	BNX13/1301346	2-40s	Industrial	1275629.90	196252.45	Supplemental	2-49 MTCA Excav, E Sidewall (OA 14)	
P2IM-SM-173-10-S-S	4/10/2012	10.0	BNX13/1301346	2-40s	Stormwater	1275643.37	196212.16	Supplemental	2-49 MTCA Excav, E Sidewall (OA 14)	
P2IM-SM-174-06-S-S	4/10/2012	6.0	BNX13/1301346	2-40s	Industrial	1275647.07	196208.80	Supplemental	2-49 MTCA Excav, E Sidewall (OA 14)	
P2IM-SM-175-11-S-C	4/19/2012	11.0	BNX23/1303599	2-60s	Industrial	1276037.38	196805.31	Confirmation	DP-4408 Excav, Bottom (UST PL-37)	
P2IM-SM-176-11-S-S	4/19/2012	11.0	BNX23/1303599	2-60s	Industrial	1276041.83	196801.31	Supplemental	DP-4408 Excav, S Sidewall (UST PL-37)	
P2IM-SM-177-06-S-S	4/19/2012	6.0	BNX23/1303599	2-60s	Industrial	1276041.83	196801.31	Supplemental	DP-4408 Excav, S Sidewall (UST PL-37)	
P2IM-SM-178-06-S-C	4/19/2012	6.0	BNX23/1303599	2-60s	Industrial	1276030.64	196799.15	Confirmation	DP-4408 Excav, W Sidewall	
P2IM-SM-179-06-S-C	4/19/2012	6.0	BNX23/1303599	2-60s	Industrial	1276041.04	196810.37	Confirmation	DP-4408 Excav, E Sidewall (UST PL-37)	
P2IM-SM-180-06-S-C	4/19/2012	6.0	BNX24/1303600	2-60s	Industrial	1276010.50	196775.71	Confirmation	2-60-DP-17 Excav, Bottom	
P2IM-SM-181-2.5-S-C	4/19/2012	2.5	BNX24/1303600	2-60s	Industrial	1276003.52	196770.15	Confirmation	2-60-DP-17 Excav, W Sidewall	
P2IM-SM-182-01-S-S	4/19/2012	1.0	BNX24/1303600	2-60s	Industrial	1276013.34	196771.18	Supplemental	2-60-DP-17 Excav, S Sidewall	
P2IM-SM-183-2.5-S-C	4/19/2012	2.5	BNX24/1303600	2-60s	Industrial	1276012.74	196780.12	Confirmation	2-60-DP-17 Excav, E Sidewall	
P2IM-SM-184-11-S-C	4/20/2012	11.0	BNX27/1303872	2-40s	Industrial	1275131.53	196982.91	Confirmation	2-41 Light Pole Base Excav, Center (SWMU 2-41.31)	
P2IM-SM-185-06-S-C	4/20/2012	6.0	BNX27/1303872	2-40s	Industrial	1275137.83	196991.36	Confirmation	2-41 Light Pole Base Excav, E Sidewall (SWMU 2-41.31)	
P2IM-SM-186-06-S-C	4/20/2012	6.0	BNX27/1303872	2-40s	Industrial	1275123.40	196975.07	Confirmation	2-41 Light Pole Base Excav, W Sidewall (SWMU 2-41.31)	
P2IM-SM-187-06-S-C	4/20/2012	6.0	BNX27/1303872	2-40s	Industrial	1275125.42	196986.42	Confirmation	2-41 Light Pole Base Excav, N Sidewall (SWMU 2-41.31)	
P2IM-SM-188-06-S-C	4/20/2012	6.0	BNX27/1303872	2-40s	Industrial	1275136.94	196975.30	Confirmation	2-41 Light Pole Base Excav, S Sidewall (SWMU 2-41.31)	
P2IM-SM-189-11-S-C	4/24/2012	11.0	BNX32/1304470	2-40s	Industrial	1274999.76	197121.68	Confirmation	SB-04107 Excav, Bottom	
P2IM-SM-190-08-S-S	4/24/2012	8.0	BNX32/1304470	2-40s	Industrial	1275002.76	197113.47	Supplemental	SB-04107 Excav, S Sidewall	
P2IM-SM-191-1.5-S-S	4/24/2012	1.5	BNX32/1304470	2-40s	Industrial	1275004.05	197111.78	Confirmation	SB-04107 Excav, S Sidewall	
P2IM-SM-192-06-S-C	4/24/2012	6.0	BNX32/1304470	2-40s	Industrial	1274989.77	197112.25	Confirmation	SB-04107 Excav, W Sidewall (AOC 2-41.32)	
P2IM-SM-193-06-S-C	4/24/2012	6.0	BNX32/1304470	2-40s	Industrial	1274991.40	197124.71	Confirmation	SB-04107 Excav, N Sidewall (AOC 2-41.32)	
P2IM-SM-194-07-S-C	5/4/2012	7.0	BNX46/1306956	2-40s	Industrial	1275118.55	196967.14	Confirmation	2-41 Light Pole Base Excav, W Bottom (SWMU 2-41.31)	
P2IM-SM-195-07-S-C	5/4/2012	7.0	BNX46/1306956	2-40s	Industrial	1275147.25	196997.46	Confirmation	2-41 Light Pole Base Excav, E Bottom (SWMU 2-41.31)	
P2IM-SM-196-10-S-C	5/8/2012	10.0	BNX51/1307564	2-40s	Stormwater	1275537.98	196234.80	Confirmation	2-49 MTCA Re-Excav, N Sidewall (OA 14)	Removed by subsequent excavation
P2IM-SM-197-06-S-C	5/8/2012	6.0	BNX51/1307564	2-40s	Stormwater	1275534.28	196238.16	Confirmation	2-49 MTCA Re-Excav, N Sidewall (OA 14)	Removed by subsequent excavation
P2IM-SM-198-01-S-C	5/8/2012	1.0	BNX51/1307564	2-40s	Stormwater	1275531.32	196240.85	Confirmation	2-49 MTCA Re-Excav, N Sidewall	Removed by subsequent excavation
P2IM-SM-199-10-S-C	5/9/2012	10.0	BNX55/1308321	2-60s	Industrial	1276067.38	196813.84	Confirmation	PL-38 Excav, W Bottom	
P2IM-SM-200-10-S-C	5/9/2012	10.0	BNX55/1308321	2-60s	Industrial	1276071.70	196818.64	Confirmation	PL-38 Excav, E Bottom	
P2IM-SM-201-10-S-S	5/10/2012	10.0	BNX54/1308320	2-40s	Industrial	1275659.23	196174.42	Supplemental	2-66 SA2 Excav, E Sidewall	
P2IM-SM-202-05-S-S	5/10/2012	5.0	BNX54/1308320	2-40s	Industrial	1275662.57	196178.14	Supplemental	2-66 SA2 Excav, E Sidewall	
P2IM-SM-202-05-S-CL	5/10/2012	5.0	BNX54/1308320	2-40s	Industrial	1275662.57	196178.14	Co-Located (QC)	2-66 SA2 Excav, E Sidewall	
P2IM-SM-203-01-S-S	5/10/2012	1.0	BNX54/1308320	2-40s	Industrial	1275665.24	196181.11	Supplemental	2-66 SA2 Excav, E Sidewall	
P2IM-SM-204-10-S-S	5/10/2012	10.0	BNX57/1308332	2-66	Industrial	1275801.51	196207.99	Supplemental	2-60-DP-25 Excav, E Sidewall	Removed by subsequent excavation
P2IM-SM-204-10-S-CL	5/10/2012	10.0	BNX57/1308332	2-66	Industrial	1275801.51	196207.99	Co-Located (QC)	2-60-DP-25 Excav, E Sidewall	Removed by subsequent excavation
P2IM-SM-205-05-S-S	5/10/2012	5.0	BNX57/1308332	2-66	Industrial	1275801.51	196207.99	Supplemental	2-60-DP-25 Excav, E Sidewall	Removed by subsequent excavation
P2IM-SM-205.01-10-S-C	6/14/2012	10.0	BNX98/1316044	2-66	Industrial	1275805.73	196212.45	Confirmation	2-60-DP-25 Re-Excav, E Sidewall	
P2IM-SM-205.02-05-S-C	6/14/2012	5.0	BNX98/1316044	2-66	Industrial	1275805.73	196212.45	Confirmation	2-60-DP-25 Re-Excav, E Sidewall	
P2IM-SM-205.02-05-S-CL	6/14/2012	5.0	BNX98/1316044	2-66	Industrial	1275805.73	196212.45	Co-Located (QC)	2-60-DP-25 Re-Excav, E Sidewall	
P2IM-SM-206-01-S-S	5/10/2012	1.0	BNX57/1308332	2-66	Industrial	1275801.51	196207.99	Supplemental	2-60-DP-25 Excav, E Sidewall	Removed by subsequent excavation
P2IM-SM-207-10-S-S	5/11/2012	10.0	BNX58/1308607	2-66	Industrial	1275696.27	196140.91	Supplemental	2-66 SA2 Excav, E Sidewall	
P2IM-SM-208-05-S-S	5/11/2012	5.0	BNX58/1308607	2-66	Industrial	1275699.62	196144.62	Supplemental	2-66 SA2 Excav, E Sidewall	
P2IM-SM-209-01-S-S	5/11/2012	1.0	BNX58/1308607	2-66	Industrial	1275702.30	196147.58	Supplemental	2-66 SA2 Excav, E Sidewall	
P2IM-SM-210-06-S-C	5/18/2012	6.0	BNX65/1310185	2-60s	Industrial	1276042.26	196823.93	Confirmation	U44-112 Sump Excav, N sidewall	
P2IM-SM-211-06-S-C	5/18/2012	6.0	BNX65/1310185	2-60s	Industrial	1276055.50	196824.07	Confirmation	U44-112 Sump Excav, E sidewall	
P2IM-SM-212-06-S-C	5/18/2012	6.0	BNX65/1310185	2-60s	Industrial	1276045.50	196814.90	Confirmation	U44-112 Sump Excav, W sidewall	
P2IM-SM-213-11-S-C	5/18/2012	11.0	BNX65/1310185	2-60s	Industrial	1276052.28	196812.72	Confirmation	U44-112 Sump Excav, Bottom	
P2IM-SM-214-1.5-S-S	6/12/2012	1.5	BNX84/1315398	2-60s	Industrial	1275805.06	196520.75	Supplemental	OA9 Excav, E sidewall, PL2-606A Supplemental	

Table 4: Supplemental and Confirmation Soil Sample Status
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Sample No.	Sample Date	Depth (ft)	Data Package	Area	Risk Mgt Area	Easting	Northing	Reason for Sample	Location / Purpose	
									Location or Sample Replaced	New Sample Status
P2IM-SM-215-2.5-S-S	6/12/2012	2.5	BNX84/1315398	2-60s	Industrial	1275805.06	196520.75	Supplemental	OA9 Excav, E sidewall, PL2-606A Supplemental	
P2IM-SM-216-5.2-S-S	6/12/2012	5.2	BNX84/1315398	2-60s	Industrial	1275805.06	196520.75	Supplemental	OA9 Excav, E sidewall, PL2-606A Supplemental	
P2IM-SM-217-10-S-S	6/12/2012	10.0	BNX84/1315398	2-60s	Industrial	1275805.06	196520.75	Supplemental	OA9 Excav, E sidewall, PL2-606A Supplemental	
P2IM-SM-218-5-S-S	6/12/2012	5.0	BNX85/1315401	2-60s	Industrial	1275769.65	196514.06	Supplemental	OA9 Excav, N Sidewall, PL2-311 Supplemental	
P2IM-SM-219-7.5-S-S	6/12/2012	7.5	BNX85/1315401	2-60s	Industrial	1275769.65	196514.06	Supplemental	OA9 Excav, N Sidewall, PL2-311 Supplemental	
P2IM-SM-219-7.5-S-CL	6/12/2012	7.5	BNX85/1315401	2-60s	Industrial	1275769.65	196514.06	Co-Located (QC)	OA9 Excav, N Sidewall, PL2-311 Co-located	
P2IM-SM-220-10-S-S	6/12/2012	10.0	BNX85/1315401	2-60s	Industrial	1275769.65	196514.06	Supplemental	OA9 Excav, N Sidewall, PL2-311 Supplemental	
P2IM-SM-221-3.2-S-S	6/12/2012	3.2	BNX86/1315403	2-60s	Industrial	1275807.12	196469.74	Supplemental	OA9 Excav, S Sidewall, SW-39 Supplemental	
P2IM-SM-222-10.1-S-S	6/12/2012	10.1	BNX86/1315403	2-60s	Industrial	1275807.12	196469.74	Supplemental	OA9 Excav, S Sidewall, SW-39 Supplemental	
P2IM-SM-223-5-S-C	6/12/2012	5.0	BNX87/1315409	2-60s	Industrial	1275789.71	196449.03	Confirmation	OA9 Excav, S Sidewall	
P2IM-SM-224-5-S-S	6/12/2012	5.0	BNX88/1315410	2-60s	Industrial	1275800.57	196462.18	Supplemental	OA9 Excav, S Sidewall, SB-04412 Supplemental	
P2IM-SM-225-7.5-S-S	6/12/2012	7.5	BNX88/1315410	2-60s	Industrial	1275800.57	196462.18	Supplemental	OA9 Excav, S Sidewall, SB-04412 Supplemental	
P2IM-SM-226-5-S-C	6/12/2012	5.0	BNX87/1315409	2-60s	Industrial	1275744.99	196484.33	Confirmation	OA9 Excav, N Sidewall	Removed by subsequent excavation
P2IM-SM-226.01-10-S-C	6/29/2012	10.0	BNZ25/1319426	2-60s	Industrial	1275743.47	196492.36	Confirmation	OA9 NW Re-Excav, E sidewall	
P2IM-SM-226.02-05-S-C	6/29/2012	5.0	BNZ25/1319426	2-60s	Industrial	1275743.47	196492.36	Confirmation	OA9 NW Re-Excav, E sidewall	
P2IM-SM-226.03-10-S-C	6/29/2012	10.0	BNZ25/1319426	2-60s	Industrial	1275735.01	196493.46	Confirmation	OA9 NW Re-Excav, N sidewall	
P2IM-SM-226.04-05-S-C	6/29/2012	5.0	BNZ25/1319426	2-60s	Industrial	1275735.01	196493.46	Confirmation	OA9 NW Re-Excav, N sidewall	
P2IM-SM-226.05-10-S-C	6/29/2012	10.0	BNZ25/1319426	2-60s	Industrial	1275737.68	196485.52	Confirmation	OA9 NW Re-Excav, W sidewall	
P2IM-SM-226.06-05-S-C	6/29/2012	5.0	BNZ25/1319426	2-60s	Industrial	1275733.66	196487.77	Confirmation	OA9 NW Re-Excav, W sidewall	
P2IM-SM-227-11-S-C	6/12/2012	11.0	BNX87/1315409	2-60s	Industrial	1275765.80	196462.65	Confirmation	OA9 Excav, Bottom	
P2IM-SM-228-7.5-S-S	6/12/2012	7.5	BNX89/1315412	2-60s	Industrial	1275749.00	196453.90	Supplemental	OA9 Excav, W Sidewall, PL2-310A Supplemental	
P2IM-SM-229-10-S-S	6/12/2012	10.0	BNX89/1315412	2-60s	Industrial	1275749.00	196453.90	Supplemental	OA9 Excav, W Sidewall, PL2-310A Supplemental	
P2IM-SM-230-03-S-C	6/13/2012	3.0	BNX92/1315681	2-31	Industrial	1274905.45	197195.56	Confirmation	2-31 Area Re-Excav, N Sidewall	
P2IM-SM-231-10-S-C	6/13/2012	10.0	BNX92/1315681	2-31	Industrial	1274891.41	197184.50	Confirmation	2-31 Area Re-Excav, N Sidewall	
P2IM-SM-232-05-S-C	6/13/2012	5.0	BNX92/1315681	2-31	Industrial	1274891.41	197184.50	Confirmation	2-31 Area Re-Excav, N Sidewall	
P2IM-SM-233-01-S-C	6/13/2012	1.0	BNX92/1315681	2-31	Industrial	1274891.41	197184.50	Confirmation	2-31 Area Re-Excav, N Sidewall	
P2IM-SM-233-01-S-CL	6/13/2012	1.0	BNX92/1315681	2-31	Industrial	1274891.41	197184.50	Co-Located (QC)	2-31 Area Re-Excav, N Sidewall	
P2IM-SM-234-10-S-S	6/13/2012	10.0	BNX92/1315681	2-31	Industrial	1274860.16	197159.36	Supplemental	2-31 Area Re-Excav, N Sidewall	
P2IM-SM-235-05-S-S	6/13/2012	5.0	BNX92/1315681	2-31	Industrial	1274860.16	197159.36	Supplemental	2-31 Area Re-Excav, N Sidewall	
P2IM-SM-236-01-S-S	6/13/2012	1.0	BNX92/1315681	2-31	Industrial	1274860.16	197159.36	Supplemental	2-31 Area Re-Excav, N Sidewall	
P2IM-SM-237-10-S-S	6/14/2012	10.0	BNX99/1316045	2-66	Industrial	1275857.60	196023.09	Supplemental	2-66 SA2 Excav, E Sidewall (OA 1 & OA 2)	
P2IM-SM-238-05-S-S	6/14/2012	5.0	BNX99/1316045	2-66	Industrial	1275859.79	196027.59	Supplemental	2-66 SA2 Excav, E Sidewall (OA 2)	
P2IM-SM-239-01-S-S	6/14/2012	1.0	BNX99/1316045	2-66	Industrial	1275861.74	196031.08	Supplemental	2-66 SA2 Excav, E Sidewall (OA 2)	
P2IM-SM-239-01-S-CL	6/14/2012	1.0	BNX99/1316045	2-66	Industrial	1275861.74	196031.08	Co-Located (QC)	2-66 SA2 Excav, E Sidewall (OA 2)	
P2IM-SM-240-10-S-S	6/18/2012	10.0	BNZ07/1316629	2-66	Industrial	1275900.96	195998.79	Supplemental	2-66 SA2 Excav, E Sidewall (OA 1 & OA 2)	
P2IM-SM-241-05-S-S	6/18/2012	5.0	BNZ07/1316629	2-66	Industrial	1275903.41	196003.15	Supplemental	2-66 SA2 Excav, E Sidewall (OA 1 & OA 2)	
P2IM-SM-242-01-S-S	6/18/2012	1.0	BNZ07/1316629	2-66	Industrial	1275905.36	196006.64	Supplemental	2-66 SA2 Excav, E Sidewall (OA 1)	
P2IM-SM-243-10-S-S	6/18/2012	10.0	BNZ08/1316630	2-66	Industrial	1275935.86	195979.24	Supplemental	2-66 SA2 Excav, E Sidewall (OA 1)	
P2IM-SM-244-05-S-S	6/18/2012	5.0	BNZ08/1316630	2-66	Industrial	1275938.30	195983.60	Supplemental	2-66 SA2 Excav, E Sidewall (OA 1)	
P2IM-SM-245-01-S-S	6/18/2012	1.0	BNZ08/1316630	2-66	Industrial	1275939.12	195987.73	Supplemental	2-66 SA2 Excav, E Sidewall (OA 1)	
P2IM-SM-245-01-S-CL	6/18/2012	1.0	BNZ08/1316630	2-66	Industrial	1275940.17	195986.03	Co-Located (QC)	2-66 SA2 Excav, E Sidewall	
P2IM-SM-246-10-S-C	6/20/2012	10.0	BNZ13/1317260	2-31	Industrial	1274845.86	197136.45	Confirmation	2-31 Area Excav, NW Sidewall	
P2IM-SM-247-05-S-C	6/20/2012	5.0	BNZ13/1317260	2-31	Industrial	1274845.86	197136.45	Confirmation	2-31 Area Excav, NW Sidewall	
P2IM-SM-248-01-S-C	6/20/2012	1.0	BNZ13/1317260	2-31	Industrial	1274845.86	197136.45	Confirmation	2-31 Area Excav, NW Sidewall	
P2IM-SM-249-05-S-C	6/20/2012	5.0	BNZ13/1317260	2-31	Industrial	1274840.02	197158.66	Confirmation	NS-02-31 Excav, E Sidewall	
P2IM-SM-250-05-S-C	6/20/2012	5.0	BNZ13/1317260	2-31	Industrial	1274842.46	197139.43	Confirmation	NS-03-31 Excav, W sidewall	
P2IM-SM-251-05-S-S	7/18/2012	5.0	BNZ31/1323072	2-66	Industrial	1275896.60	195844.21	Confirmation	2-66 Sheetpile, 5' S of S Wall, W end (OA 1)	
P2IM-SM-252-01-S-S	7/18/2012	1.0	BNZ31/1323072	2-66	Industrial	1275896.60	195844.21	Confirmation	2-66 Sheetpile, 5' S of S Wall, W end (OA 1)	
P2IM-SM-253-05-S-S	7/19/2012	5.0	BNZ33/1323415	2-66	Industrial	1275930.16	195884.65	Confirmation	2-66 Sheetpile, 5' S of S Wall, E end (OA 1)	
P2IM-SM-254-01-S-S	7/19/2012	1.0	BNZ33/1323415	2-66	Industrial	1275930.16	195884.65	Confirmation	2-66 Sheetpile, 5' S of S Wall, E end (OA 1)	
P2IM-SM-255-10-S-S	7/25/2012	10.0	BNZ40/1324543	2-66	Industrial	1275733.37	196107.34	Supplemental	2-66 SA2 Excav, E Sidewall (OA 2)	Removed by subsequent excavation
P2IM-SM-255.01-10-S-S	8/15/2012	10.0	BNZ65/1329233	2-66	Industrial	1275752.04	196126.55	Supplemental	2-66 SA2 Re-Excav, E Sidewall, replaces P2IM-SM-255 (OA 2)	
P2IM-SM-256-05-S-S	7/25/2012	5.0	BNZ40/1324543	2-66	Industrial	1275736.71	196111.06	Supplemental	2-66 SA2 Excav, E Sidewall (OA 2)	Removed by subsequent excavation

Table 4: Supplemental and Confirmation Soil Sample Status
Boeing Plant 2: 2-31, 2-40s & 2-60s Demolition/Redevelopment Areas

Sample No.	Sample Date	Depth (ft)	Data Package	Area	Risk Mgt Area	Easting	Northing	Reason for Sample	Location / Purpose	
									Location or Sample Replaced	New Sample Status
P2IM-SM-256.01-05-S-S	8/15/2012	5.0	BNZ65/1329233	2-66	Industrial	1275752.04	196126.55	Supplemental	2-66 SA2 Re-Excav, E Sidewall, replaces P2IM-SM-256 (OA 2)	
P2IM-SM-257-01-S-S	7/25/2012	1.0	BNZ40/1324543	2-66	Industrial	1275739.38	196114.04	Supplemental	2-66 SA2 Excav, E Sidewall OA 2)	Removed by subsequent excavation
P2IM-SM-257.01-01-S-S	8/15/2012	1.0	BNZ65/1329233	2-66	Industrial	1275752.04	196126.55	Supplemental	2-66 SA2 Re-Excav, E Sidewall, replaces P2IM-SM-257 (OA2)	
P2IM-SM-257.01-01-S-CL	8/15/2012	1.0	BNZ65/1329233	2-66	Industrial	1275752.04	196126.55	Co-Located (QC)	2-66 SA2 Re-Excav, E Sidewall (OA 2)	
P2IM-SM-258-10-S-S	7/26/2012	10.0	BNZ41/1324846	2-66	Industrial	1275769.97	196074.77	Supplemental	2-66 SA2 Excav, E Sidewall (OA 2)	
P2IM-SM-259-05-S-S	7/26/2012	5.0	BNZ41/1324846	2-66	Industrial	1275773.26	196078.43	Supplemental	2-66 SA2 Excav, E Sidewall (OA 2)	
P2IM-SM-260-01-S-S	7/26/2012	1.0	BNZ41/1324846	2-66	Industrial	1275775.53	196081.34	Supplemental	2-66 SA2 Excav, E Sidewall (OA 2)	
P2IM-SM-261-10-S-S	7/27/2012	10.0	BNZ42/1325119	2-66	Industrial	1275813.72	196047.67	Supplemental	2-66 SA2 Excav, E Sidewall (OA 1 & OA 2)	
P2IM-SM-261-10-S-CL	7/27/2012	10.0	BNZ42/1325119	2-66	Industrial	1275813.72	196047.67	Co-Located (QC)	2-66 SA2 Excav, E Sidewall (OA 1 & OA 2)	
P2IM-SM-262-05-S-S	7/27/2012	5.0	BNZ42/1325119	2-66	Industrial	1275816.17	196052.03	Supplemental	2-66 SA2 Excav, E Sidewall (OA 1 & OA 2)	
P2IM-SM-263-01-S-S	7/27/2012	1.0	BNZ42/1325119	2-66	Industrial	1275818.12	196055.52	Supplemental	2-66 SA2 Excav, E Sidewall (OA 1 & OA 2)	
P2IM-SM-264-05-S-S	8/7/2012	5.0	BNZ57/1327353	2-66	Industrial	1275943.56	195915.21	Confirmation	2-66 Sheetpile, 5' E of E Wall, SE Corner (OA 1 & OA 2)	
P2IM-SM-264-05-S-CL	8/7/2012	5.0	BNZ57/1327353	2-66	Industrial	1275943.56	195915.21	Co-Located (QC)	2-66 Sheetpile, 5' E of E Wall, SE Corner (OA 1 & OA 2)	
P2IM-SM-265-01-S-S	8/7/2012	1.0	BNZ57/1327353	2-66	Industrial	1275946.47	195918.44	Confirmation	2-66 Sheetpile, 5' E of E Wall, SE Corner (OA 1 & OA 2)	
P2IM-SM-266-10-S-S	8/14/2012	10.0	BNZ63/1328907	2-60s	Industrial	1276202.05	196287.42	Supplemental	SB-06304 Excav, E Sidewall	
P2IM-SM-267-05-S-S	8/14/2012	5.0	BNZ63/1328907	2-60s	Industrial	1276202.05	196287.42	Supplemental	SB-06304 Excav, E Sidewall	
P2IM-SM-268-01-S-S	8/14/2012	1.0	BNZ63/1328907	2-60s	Industrial	1276202.05	196287.42	Supplemental	SB-06304 Excav, E Sidewall	
P2IM-SM-269-10-S-S	8/14/2012	10.0	BNZ63/1328907	2-60s	Industrial	1276193.53	196277.09	Supplemental	SB-06304 Excav, W Sidewall	
P2IM-SM-270-05-S-S	8/14/2012	5.0	BNZ63/1328907	2-60s	Industrial	1276193.53	196277.09	Supplemental	SB-06304 Excav, W Sidewall	
P2IM-SM-271-01-S-S	8/14/2012	1.0	BNZ63/1328907	2-60s	Industrial	1276193.53	196277.09	Supplemental	SB-06304 Excav, W Sidewall	

FIGURES

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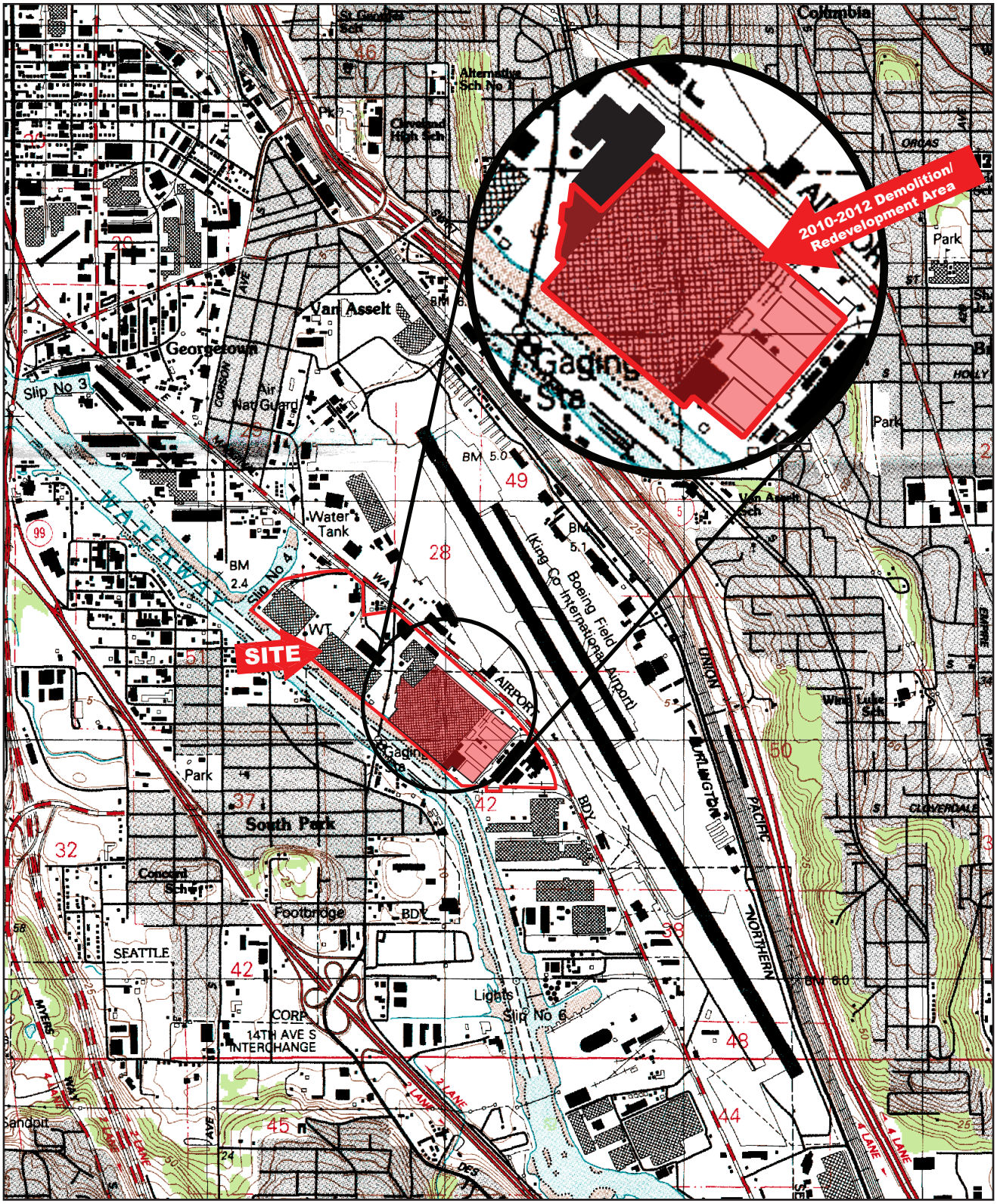

SHEET	DRAWN BY	REVIEWED BY	DATE
1 of 1	AMP	SM	03/05/13

Golder Associates

2010-2012
Demolition/Redevelopment Area
Boeing Plant 2
Seattle/Tukwila, Washington

Figure 1
Vicinity Map

0131646011300001fig01_R6.ai

EAST MARGINAL WAY SOUTH

2-22

2-25

2-45

2-83

2-85

2-62 SLAB

2-127 Boiler House

2-28

2-29

Water Tank 2-38

16th AVE SOUTH

2-40

2-63 SLAB

2-80

2-83

2-48

2-64

FORMER BUILDING DIVISION LINE (TYPICAL)

2-65 SLAB

2-81

2-41

2-44

2-51

2-49

2-66 SLAB

2-32

2-09

Overhang Slab / Concrete Remaining (as of March 2013)

JORGENSEN STEEL

Sheetpile Containment Area

DUWAMISH COMMERCIAL WATERWAY

LEGEND

DEMOLITION / REDEVELOPMENT AREA

TUNNELS

NOTE: BUILDING & SLAB NUMBERS SHOWN FOR REFERENCE PURPOSES

TRUE NORTH

PLANT NORTH

0 160 320

SCALE IN FEET

FIGURE **2**

2010 - 2012 PLANT 2 DEMOLITION / REDEVELOPMENT AREA

IM WORK PLAN COMPLETION: 2010 - 2012 SOIL & STORMWATER MANAGEMENT

V:\IM Completion, 2010-2012 Demo-Redev\3-Figures\ACAD\Plant 2 PLanning Template, sm9.dwg | Fig 2 - Demo Area | Mod: 04/29/2013, 11:23 | Plotted: 04/29/2013, 11:57 | smatthees

2–22
2–25
2–45
2–28
2–31
2–40
2–44
2–48
2–62 SLAB
2–63 SLAB
2–64
2–65 SLAB
2–66 SLAB
2–51
2–49
2–41
2–32
2–09
2–15
2–29
Water Tank 2–38
2–30
2–27
16th AVE SOUTH
INDUSTRIAL RISK MANAGEMENT AREA
FORMER BUILDING DIVISION LINE (TYPICAL)
STORMWATER VAULT
LINED STORMWATER BIOSWALE
PAVED SHORELINE RISK MANAGEMENT AREA
RISK MANAGEMENT AREA BOUNDARIES OUTSIDE OF PROJECT AREA (TYPICAL)
STORMWATER (UNPAVED SHORELINE RISK MANAGEMENT AREA)
Sheetpile Containment Structure
HABITAT AREA
DSOA (DUWAMISH SEDIMENT OTHER AREA)
Sheetpile Containment Area
JORGENSEN FORGE OUTFALL AREA (CERCLA)
DUWAMISH COMMERCIAL WATERWAY

LEGEND

- INDUSTRIAL RISK MANAGEMENT AREA
- STORMWATER (UNCOVERED SHORELINE RISK MANAGEMENT AREA)
- PAVED SHORELINE RISK MANAGEMENT AREA
- HABITAT RISK MANAGEMENT AREA
- DSOA (DUWAMISH SEDIMENT OTHER AREA)

NOTE: BUILDING & SLAB NUMBERS SHOWN FOR REFERENCE PURPOSES

TRUE NORTH
PLANT NORTH

0 160 320
SCALE IN FEET

FIGURE 3
RISK MANAGEMENT AREAS
IM WORK PLAN COMPLETION: 2010 - 2012 SOIL & STORMWATER MANAGEMENT

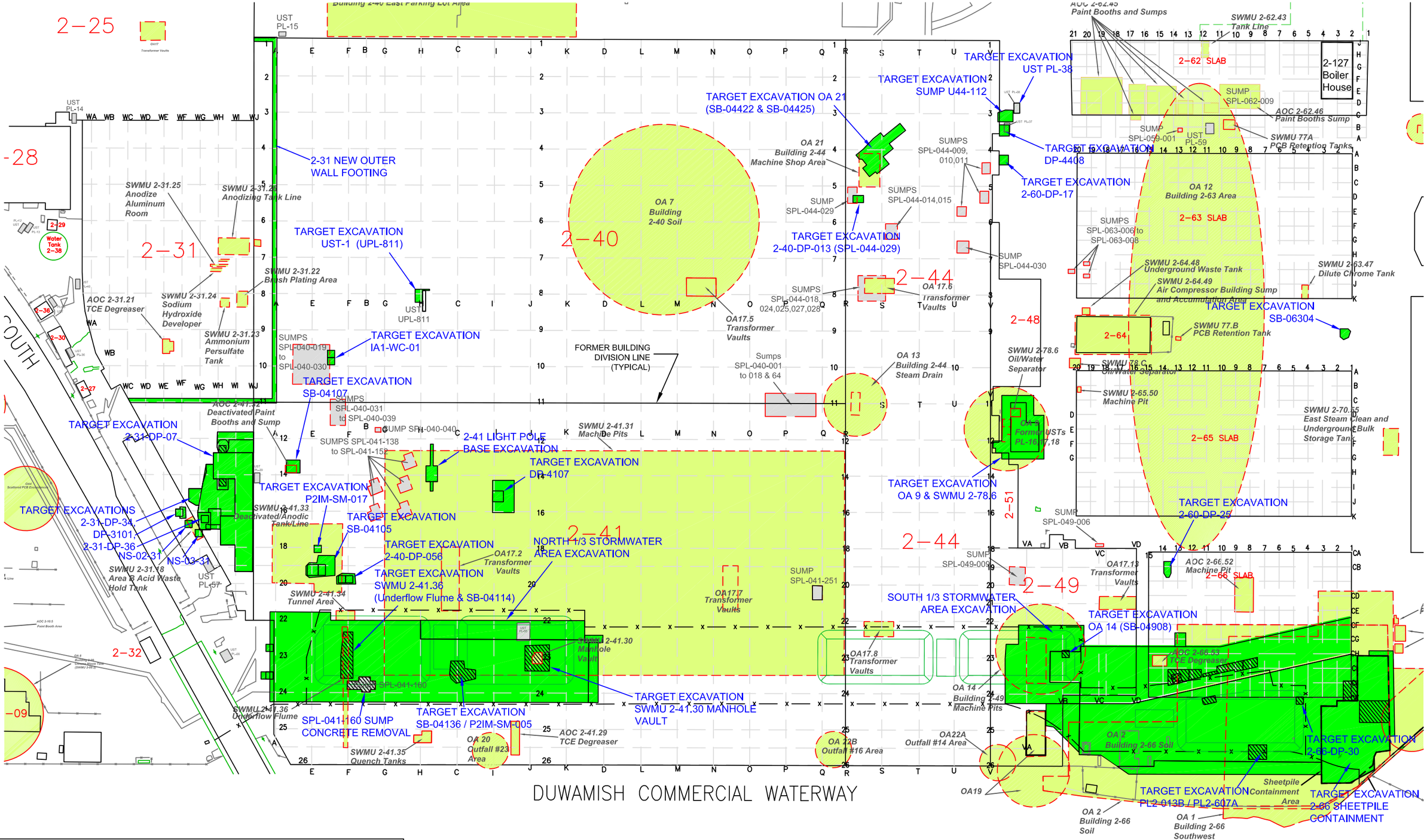

FIGURE **4**

SOIL EXCAVATIONS AND RCRA UNITS

IM WORK PLAN COMPLETION: 2010 - 2012 SOIL AND STORMWATER MANAGEMENT

V:\IM Completion, 2010-2012 Demo-Redev\3-Figures\ACAD\Plant 2 PLanning Template, sm9.dwg | Fig 4 - Excav & RCRA | Mod: 04/29/2013, 11:23 | Plotted: 04/29/2013, 12:01 | smatthees

2-25

28

2-31

2-40

2-44

2-48

2-51

2-41

2-32

2-49

-09

2-62 SLAB

2-127 Boiler House

2-63 SLAB

2-64

2-65 SLAB

2-66 SLAB

2-29 Water Tank 2-38

2-36

2-30

2-27

TARGET EXCAVATION OA 21 (SB-04422 & SB-04425)

TARGET EXCAVATION SUMP U44-112

TARGET EXCAVATION UST PL-38

TARGET EXCAVATION DP-4408

TARGET EXCAVATION 2-60-DP-17

TARGET EXCAVATION 2-40-DP-013 (SPL-044-029)

2-31 NEW OUTER WALL FOOTING

TARGET EXCAVATION UST-1 (UPL-811)

UST UPL-811

TARGET EXCAVATION IA1-WC-01

TARGET EXCAVATION SB-04107

FORMER BUILDING DIVISION LINE (TYPICAL)

TARGET EXCAVATION SB-06304

TARGET EXCAVATION 2-31-DP-07

2-41 LIGHT POLE BASE EXCAVATION

TARGET EXCAVATION DP-4107

TARGET EXCAVATION P2IM-SM-017

TARGET EXCAVATIONS 2-31-DP-34, DP-3101, 2-31-DP-36 NS-02-31 NS-03-31

TARGET EXCAVATION SB-04105

TARGET EXCAVATION 2-40-DP-056

TARGET EXCAVATION SWMU 2-41.36 (Underflow Flume & SB-04114)

NORTH 1/3 STORMWATER AREA EXCAVATION

TARGET EXCAVATION OA 9 & SWMU 2-78.6

TARGET EXCAVATION 2-60-DP-25

SOUTH 1/3 STORMWATER AREA EXCAVATION

TARGET EXCAVATION OA 14 (SB-04908)

TARGET EXCAVATION SWMU 2-41.30 MANHOLE VAULT

SPL-041-160 SUMP CONCRETE REMOVAL

TARGET EXCAVATION SB-04136 / P2IM-SM-005

TARGET EXCAVATION 2-66-DP-30

TARGET EXCAVATION PL2-013B / PL2-607A

Sheetpile Containment Area

TARGET EXCAVATION 2-66 SHEETPILE CONTAINMENT

DUWAMISH COMMERCIAL WATERWAY

LEGEND

INITIAL SOIL EXCAVATION (for different soil profile than used for subsequent larger excavation)

FINAL SOIL EXCAVATION

102 SAMPLE NO. P2IM-SM-102 (CONFIRMATION OR SUPPLEMENTAL SOIL SAMPLE)

NOTE: BUILDING AND SLAB NUMBERS ARE FOR REFERENCE PUR POSES ONLY

TRUE NORTH

PLANT NORTH

0 125 250

SCALE IN FEET

FIGURE 5

CONFIRMATION AND SUPPLEMENTAL SOIL SAMPLING

IM WORK PLAN COMPLETION: 2010 - 2012 SOIL AND STORMWATER MANAGEMENT

V:\IM Completion, 2010-2012 Demo-Redev\3-Figures\ACAD\Plant 2 PLanning Template, sm9.dwg | Fig 5 - Excavs & Sampling | Mod: 04/29/2013, 11:23 | Plotted: 04/29/2013, 12:04 | smatthees

2-25

2-31

2-40

2-44

2-48

2-41

2-44

2-49

2-32

2-62 SLAB

2-63 SLAB

2-65 SLAB

2-66 SLAB

UST PL-14

UST PL-59

UST PL-57

Water Tank 2-38

2-29

2-36

2-30

2-37

FORMER BUILDING DIVISION LINE (TYPICAL)

OA 23.1 & 23.2 STORM LINES X & Y REMOVED

Sheetpile Containment Area

DUWAMISH COMMERCIAL WATERWAY

LEGEND

EXCAVATED & REMOVED UTILITIES

OA 23.1 & 23.2 (STORMLINES X & Y) - EXCAVATED & REMOVED

NOTE: Building and Slab numbers are for Reference Purposes

NOTE: Only Features of Interest Indicated In Legend. Color Codes of Individual Utilities not Provided.

0 125 250

SCALE IN FEET

TRUE NORTH

PLANT NORTH

FIGURE 6

UTILITIES AND STORMWATER LINE REMOVALS

IM WORK PLAN COMPLETION: 2010 - 2012 SOIL AND STORMWATER MANAGEMENT

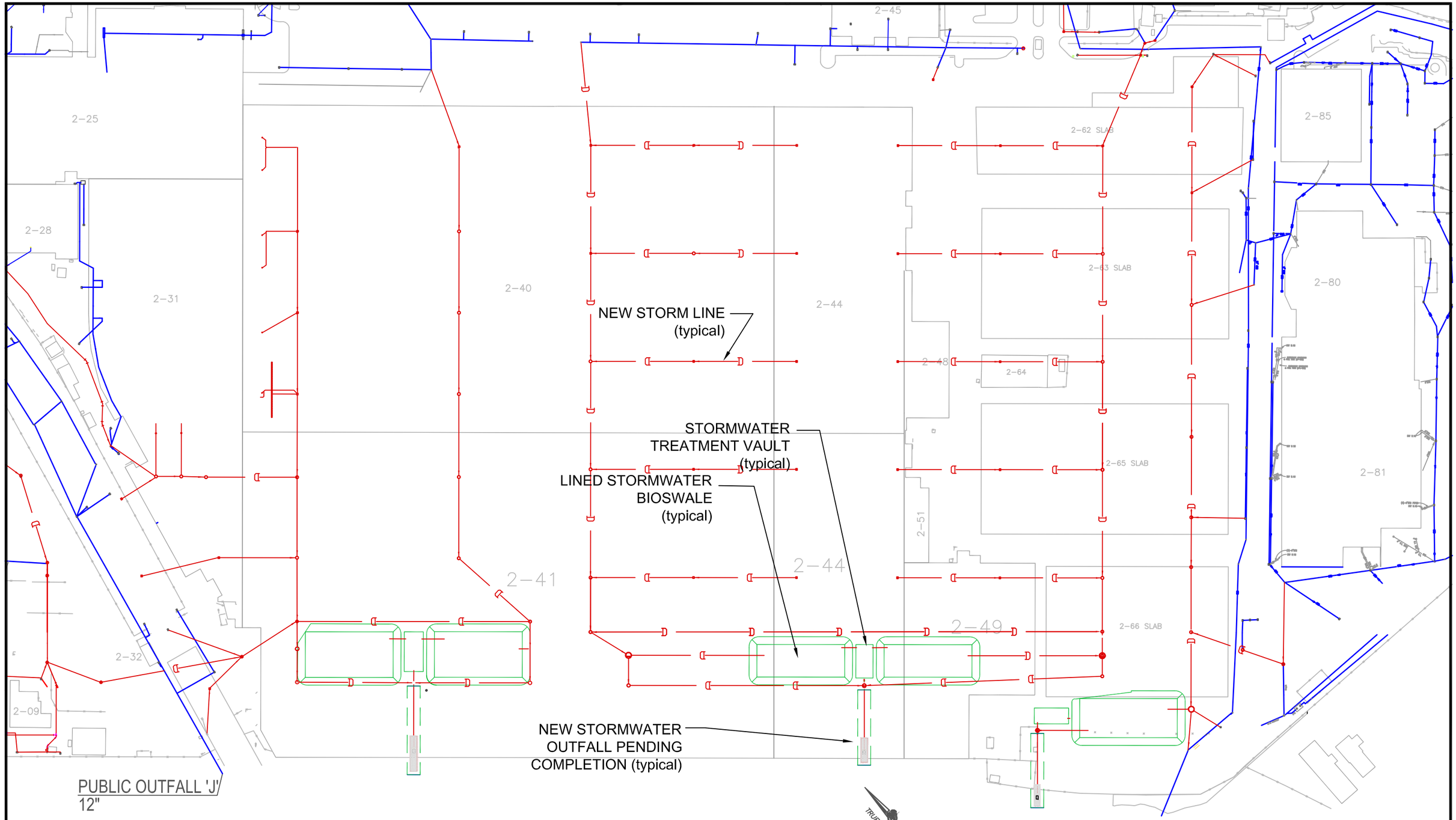

FIGURE **7**

NEW STORMWATER SYSTEM
PLANT 2 DEMOLITION / REDEVELOPMENT AREA
IM WORK PLAN COMPLETION, 2010-2012 DEMOLITION / REDEVELOPOMENT

V:\IM Completion, 2010-2012 Demo-Redev\3-Figures\ACAD\01316460002, Stormlines 03-08-2013, new system.dwg | Fig 7-New Storm Sys | Mod: 04/24/2013, 10:42 | Plotted: 04/24/2013, 12:44 | smatthees

Golder Associates

NEW FIRE WATER LINE

NEW IRRIGATION LINE

NEW ELECTRICAL LINE

FORMER BUILDING DIVISION LINE (TYPICAL)

2-25

2-31

2-40

2-44

2-48

2-41

2-32

2-51

2-49

2-62 SLAB

2-63 SLAB

2-64

2-65 SLAB

2-66 SLAB

Water Tank 2-38

Sheetpile Containment Area

DUWAMISH COMMERCIAL WATERWAY

LEGEND

F NEW FIRE LINE

NEW ELECTRICAL LINE

NEW IRRIGATION LINE

NOTE: Building and Slab numbers are for Reference Purposes

0 125 250

SCALE IN FEET

TRUE NORTH

PLANT NORTH

FIGURE **8**

NEW UTILITY INSTALLATIONS

IM WORK PLAN COMPLETION: 2010 - 2012 SOIL AND STORMWATER MANAGEMENT

V:\IM Completion, 2010-2012 Demo-Redev\3-Figures\ACAD\Plant 2 PLanning Template, sm9.dwg | Fig 8 - New Utilities | Mod: 04/29/2013, 11:23 | Plotted: 04/29/2013, 12:07 | smatthees

APPENDIX A

(ELECTRONIC COPIES ONLY, ON CD ATTACHED TO REPORT)

SOIL ANALYTICAL DATA

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APPENDIX B

(ELECTRONIC COPIES ONLY, ON CD ATTACHED TO REPORT)

DATA VALIDATION

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APPENDIX C

(ELECTRONIC COPIES ONLY, ON CD ATTACHED TO REPORT)

FIELD RECORDS

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APPENDIX D

(ELECTRONIC COPIES ONLY, ON CD ATTACHED TO REPORT)

PHOTOGRAPHS

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APPENDIX E

(ELECTRONIC COPIES ONLY, ON CD ATTACHED TO REPORT)

WORK PLAN COMPLETION REPORT, TSCA MATERIAL MANAGEMENT, PLANT 2 DEMOLITION AREA

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